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The Effect Music has in Speech Therapy

Emily K. Nester

University of Southern Mississippi

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The Effect Music has in Speech Therapy

The University of Southern Mississippi

The Effect Music has in Speech Therapy

by

Emily K. Nester

A Thesis
Submitted to the Honors College of
The University of Southern Mississippi
in Partial Fulfillment
of the Requirement for the Degree of
Bachelor of Arts
in the Department of Speech and Hearing Sciences

May 2016

The Effect Music has in Speech Therapy

The Effect Music has in Speech Therapy

Approved by

Mary Schaub, M.S., Thesis Adviser
Assistant Professor of Speech
Language Pathology

Edward L. Goshorn, Ph.D., Chair
Department of Speech and Hearing
Sciences

Ellen Weinauer, Ph.D., Dean
Honors College

Abstract

The purpose of this exploratory study was to determine the use of music in speech therapy. A survey was sent via email to Mississippi Speech-Language-Hearing Association (MSHA) certified speech-language pathologists to acquire knowledge on the use of music in their therapy sessions. The author used the source, SurveyMonkey, to collect and analyze the data. The data was used to determine the prevalence of music in speech therapy. In addition, when music was used, the data portrayed how music was incorporated into therapy and the particular gender, genre, and/or disorder preferred.

Key Words: speech-language therapy, speech-language pathologists, music therapy,
music

Acknowledgements

First, I would like to thank my Lord and Savior, Jesus Christ, for allowing me the opportunity to be a part of this prestigious honors college and thesis experience. Without His love and provision, I would not be where I am today. Next, I would like to thank my thesis advisor, Mary Schaub, for her dedication over the past two years. I am so grateful that you were so interested in this research project and always available to help in any way possible. Thank you, Dr. Cloud, for your advice and recommendations of using SurveyMonkey. It has been a very simple and successful resource. Thank you Dr. Goshorn for your help and encouragement during the Institutional Review Board (IRB) process; you were such a big help. To Dr. Maureen Martin, thank you for taking time out of your busy schedule to help guide me to the Mississippi Speech-Language-Hearing Association (MSHA) 2015 president, Camille Williams. With that, thank you Camille Williams and the current 2016 MSHA president, Rebecca Lowe, for your support and dedication to undergraduate research. Without your participation, this research would have been much more difficult to conduct. Last, but certainly not least, thank you to all the certified speech-language pathologists that willingly took part in this research survey. Your support and encouragement, along with family and friends, is what has made this research study so successful. For that, I am truly grateful!

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List of Abbreviations

ASHA	American Speech-Language-Hearing Association
IRB	Institutional Review Board
MSHA	Mississippi Speech-Language-Hearing Association
SLP	Speech-Language Pathology/Speech-Language Pathologist

Chapter 1

Introduction

“Statistics on Voice, Speech, and Language,” (2010) states that there are about 7.5 million people in the United States that have trouble using their voices. Voice disorders include problems with pitch, loudness, and quality. There are 6 to 8 million people in the United States who suffer from some form of language impairment. Language impairments can range from children to adults and can be caused by developmental disabilities, strokes, head injuries, dementia, diseases, and much more. People who suffer from these disorders seek help from a speech-language pathologist. “Speech-language pathologists (SLPs) work to prevent, assess, diagnose, and treat speech, language, social communication, cognitive-communication, and swallowing disorders in children and adults” (“Speech-Language Pathology,” 2015). There are many different techniques that speech therapists use to help correct these cognitive and communication problems. In some cases, music therapists can assist speech therapists in correcting patient’s communication disorders. The American Music Therapy Association argues that “music therapy is the use of music to address physical, emotional, cognitive, and social needs of individuals of all ages” (*The ASHA Leader*, 2012). Whether it’s a collaboration between the two therapists in a therapy session or just the speech pathologist leading the session, when music is used in speech therapy, it can have a significant impact on people who suffer with speech and language disorders (*The ASHA Leader*, 2012, Introduction paragraph and “Where is Music Therapy Headed” paragraph).

Speech therapy and music therapy have a lot in common. *The ASHA Leader* discusses how music therapists and speech therapists work with a lot of the same types of

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patients. Both music therapists and speech therapists work with people who suffer from developmental disabilities and hearing impairments (“What Type of Populations” paragraph). This specific ASHA article, “In Harmony” (2012) in *The ASHA Leader*, goes on to say that “research indicates that there are some shared neural networks between speech and music” (*The ASHA Leader*, 2012, “What is Music Therapy” paragraph). Of course, there are some differences, but what these two therapies do have in common can, when used collaboratively, help patients who struggle with speech disorders.

Sometimes music does not need to be used in therapy. It all depends on the patient and how he or she reacts to music therapy. Dr. Kate Gfeller, the Russell and Florence Day Chair of Liberal Arts and Sciences at the University of Iowa and the director of the music therapy graduate program, states that music therapy is not for everyone; although, “music therapy approaches are superb for some goals, but not the best approach for others” (*The ASHA Leader*, 2012, “Where is Music Therapy Headed” paragraph).

This study’s purpose is to determine how many therapists actually use music in their therapy sessions and what are the speech therapists’ perceptions of the effectiveness of using music in speech therapy?

Chapter 2

Review of the Literature

Music has an effect on everyone, whether it's driving down the road listening to your favorite song or watching a movie with some intense music playing in the background of an emotional scene. Music can cause persons to feel something that is often hard to explain.

Music can be used in many different ways in therapy sessions. Music could be playing in the background of a therapy session or a patient could sing a song or play an instrument. Depending on the patient's interest and speech-language needs, a therapist can include music that could help the patient.

Most of the published work related to music and speech therapy are anecdotal. I did not find any quantitative group studies. Instead, these published works focused on a patient's communication problems and improvements when music was involved in their speech therapy.

In some cases, music has improved a patient's motivation, attitude, and performance in his or her speech-language therapy (*The ASHA Leader*, 2012, "What is Music Therapy" paragraph). Assal Habibi and Antonio Damasio (2014) found that "music evoke[d] a broad range of emotions and feelings from joy and peacefulness to sadness and fear; and music-related affects are accompanied by physiological and behavioral changes" (Habibi & Damasio, 2014, p. 93). Bringing music into therapy is considered fun to many patients; they see music more as a game, where therapists see music as a way to incorporate different therapy techniques to improve speech and language disorders. Wendy Magee (2005) reported that "music is a social activity, and

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the tasks within sessions involve pragmatic communication skills such as listening, turn-talking, imitation, repetition and development of ideas, rather than passive listening” (Magee, 2005, p. 527). Music therapists use these different techniques, but speech-language therapists can also use these same techniques, especially since speech therapists work with communication disorders and cognitive disorders.

There are times when speech-language pathologists and music therapists collaborate in order to help a patient. Geist, Kamile, John, Amy, and Jessica (2008) discussed that “music therapists are trained to adapt elements of music e.g. tempo, rhythm, melody, harmony, and texture to promote effective communication strategies” (p. 311). Geist et al. (2008) recount the story of a patient who was 14 years old and had “mental retardation and autistic-like behaviors including echolalia” (Geist et al., 2008, p. 312). Both the music therapist and speech therapist worked together to create “a treatment intervention” that included the use of music in different forms like “imitation exercises, singing experiences, and fill in the blank rhythmic exercises” (Geist et al., 2008, p. 312). After these exercises, the patient’s “echolalia was reduced from 95% of the total utterances to under 10%” (Geist et al., 2008, p. 312). This article also included a case study about a 4 year old boy, named Allen, who received speech-language therapy for his numerous health issues. Allen was unable to communicate like a child should for his age. Instead, Allen would use gestures to get peoples’ attentions and to request actions (Geist et al., 2008, p. 313). According to this article, he had trouble understanding words and commands and could not communicate words or sentences clearly (Geist et al., 2008, p. 313). In addition, Allen would not participate in activities with other kids his age or try to communicate with them. Unlike in his speech-language therapy, Allen was interested

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in the music in his music therapy sessions. The results of Allen's music therapy "indicate that social interaction increased in a 1:1 setting when using music as reinforcement" (Geist et al., 2008, p. 313). Allen's previous behavior decreased as his therapy involved music. In Allen's case, the collaboration between speech-language therapy and music therapy was successful.

The use of music in speech therapy is most effective when the patient can relate to and or enjoy the music being used. However, in the article, "Integrating Music Therapy Services and Speech-Language Therapy Services for Children with Severe Communication Impairments: A Co-Treatment Model," Geist et al. (2008) qualify the potential use of music thoroughly saying that not all children who struggle with communication problems will benefit from the treatment of music therapy (p. 315). "Generally, children who demonstrate a motivation to exhibit more communicative behaviors when music is present vs. when it is not will most likely benefit more from collaboration" (Geist et al., 2008, p. 315). Therefore, the therapist needs to know if involving music in therapy sessions would be beneficial to the patient. If not, then a music therapist and speech-language therapist collaboration is not needed.

The use of music in speech therapy does not apply only to children. Music can be helpful with the elderly as well. Magee, Wendy, Shelagh, Margaret, and Jane (2006) discuss the case of an elderly man named JW who had acquired dysarthria and complex needs. JW had "symptoms typical of pseudo-Parkinsonian vascular disease" (Magee et al., 2006, p. 1222) and suffered with many other health problems. He received speech therapy for his "slow speech rate, imprecise consonants, hyper-nasality, short phrases, strained and harsh voice quality and limited pitch movement, in addition to longstanding

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emotional lability” (Magee et al., 2006, p. 1222). Music therapy was soon incorporated into his speech therapy sessions because he enjoyed the music (p. 1223). Both the speech therapist and music therapist together established the goals they hoped JW would meet. These activities included “physical relaxation[,] breath control[,] ...and pitch variation through singing exercises and simple songs” (Magee et al., 2006, p. 1223). Through the use of music, JW showed improvement and “prompted spontaneous communicative responses, which we know from interactions with his speech and language therapist were not achievable within his spoken output” (Magee et al., 2006, p. 1227).

Most of the reasons behind these positive impacts are the neurological connections between music and language (Habibi & Damasio, 2014). Music can cause people to feel emotions “from joy and peacefulness to sadness and fear” (p.93). Music can also cause physiological and behavioral changes (Habibi & Damasio, 2014, p. 93). The authors even mention that “for many music pieces and for many listeners, music-induced feelings derive from the direct emotive competence of musical sounds and compositional structure, while for other music pieces and listeners, feelings derive from layers of interposed cognitive steps, such as memory, evocations, processing of recalled contents...,and analysis of musical structure” (Habibi & Damasio, 2014, p. 93). For example, hearing a specific song or particular style of music can allow a patient to remember or recall a specific event that happened in their life. The memory of the event, whether it was good or bad, will determine how they respond to the music. There are also regions in the human brain that are affected by music and emotions. Habibi and Damasio state that the perception of music appears in the regions of the primary and secondary

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auditory cortices and the inferior frontal regions, but it also appears in the nuclei of the brain stem and along the multistep auditory pathways (Habibi & Damasio, 2014, p. 94).

Chapter 3

Methodology

Sample

The sample included licensed speech pathologists that are members of MSHA (Mississippi Speech-Language-Hearing Association). With permission by the 2015 and 2016 MSHA presidents, the research survey was sent via email to all MSHA members. However, only licensed speech pathologists were able to participate.

Procedures

The data was collected in the form of a survey. My advisor, Mary Schaub, and I wrote the survey. I received permission by the 2015 MSHA president, Camille Williams, to use the MSHA members as my sample. By the time I received approval by The University of Southern Mississippi's Institutional Review Board (IRB) to conduct the research, Rebecca Lowe became the MSHA president. Once MSHA approved the research, the survey was distributed via email and viewed electronically through "SurveyMonkey."

The email included information about the research and its IRB approval. A consent form was also attached to the email and within it, the link to the survey. The consent form stated that in order to participate in this research, the participant must be a licensed speech pathologists.

Variables

The independent variables included the number of therapists' that utilize music and its effectiveness in their speech therapy sessions. Demographic questions including the therapists' work setting and number of years he or she has been practicing were

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asked. The dependent variables included yes and no questions pertaining to the utility of music in therapy. The questions ranged from “do you use music in therapy” to “with what patients do you incorporate music into therapy.”

The demographic questions and some of the dependent variable questions were in the form of both “multiple choice, yes/no” questions and “check all that apply.”

However, a comment box was provided when necessary so that the therapist could expand on his or her answer.

Analysis/Design

This was an exploratory study. The data was used to determine the prevalence of music in speech therapy. In addition, when music was used, how was it incorporated into therapy, and was there a particular gender, genre, and/or disorder preferred?

The Survey Questions

Demographic questions:

- A. Where do you primary practice?
 - 1. Hospitals/Clinics
 - 2. Education Settings/Schools
 - 3. Colleges/Universities
 - 4. Residential Health Care Facilities
 - 5. Rehabilitation Facilities
 - 6. Public Health Departments
 - 7. Private Practice
 - 8. Other (please specify)
- B. How many years have you practiced?
 - 1. 0-5 years
 - 2. 5-10 years
 - 3. 10-20 years
 - 4. 20-35 years
 - 5. 35+ years

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Dependent Variables:

- A. Do you use music in your therapy sessions?
 - 1. Yes
 - 2. No
- B. What is your opinion of using music in speech therapy?
 - 1. Music is beneficial in therapy.
 - 2. Music is not helpful in therapy.
- C. With what clients do you include music in their speech therapy sessions?
Choose all that apply.
 - 1. Speech Disorder patients
 - 2. Language Disorder patients
 - 3. Aphasia patients
 - 4. Autistic patients
 - 5. Other (please specify)
- D. Is there an age limit for you to use music in therapy?
 - 1, Yes
 - 2. No
 - 3. If yes, please specify.
- E. Is there a particular gender that you prefer to include music in therapy?
 - 1. Yes, males
 - 2. Yes, females
 - 3. No
- F. Is there a particular disorder that you use music in addition to therapy? Check all that apply.
 - 1. Speech Disorders
 - 2. Language Disorders
- G. In what context do you incorporate music into the therapy session? Mark all that apply.
 - 1. The music is playing in the background.
 - 2. You and the client listen to music together.
 - 3. You and the client sing together.
 - 4. You and the client play a musical instrument.
 - 5. Other (please specify)
- H. Is there a type/genre of music that you prefer to use in therapy?
 - 1. Yes
 - 2. No
 - 3. If yes, please specify.

Chapter 4

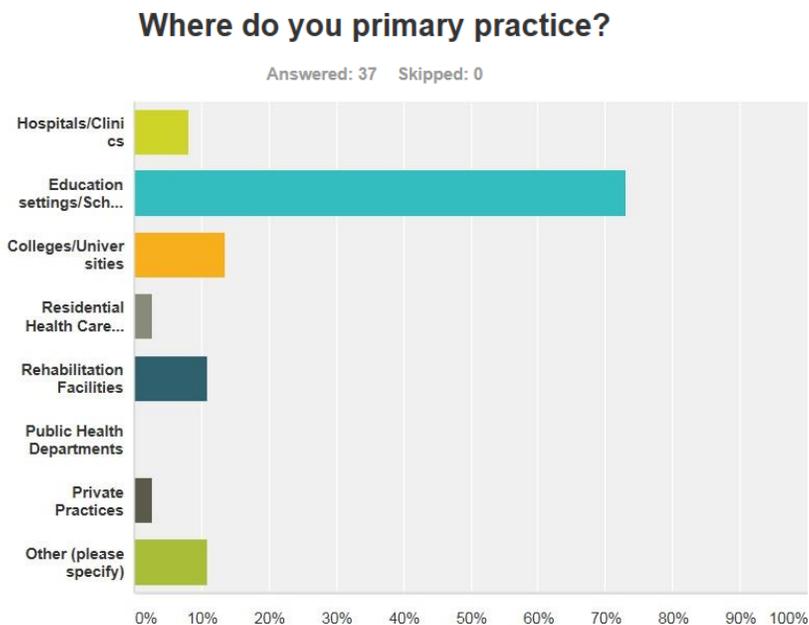
Results

There were a total of 37 responses to the survey. According to the data, music is used more often than not in therapy, considered to be beneficial, and incorporated into therapy of all different types of disorders. In addition, the majority said that there is no specific age or gender that uses music in therapy. Below are the results of each question asked in the survey.

Question 1: Where do you primary practice?

All 37 participants responded to this question. According to the survey, 27 (72.97%) work in education settings/schools, while 0% work in public health departments. There were four responses in the “Other” category. Two participants responded with home health, while the other responses were private therapeutic school for students with autism and an early intervention in the home.

Table 1: Primary Practice

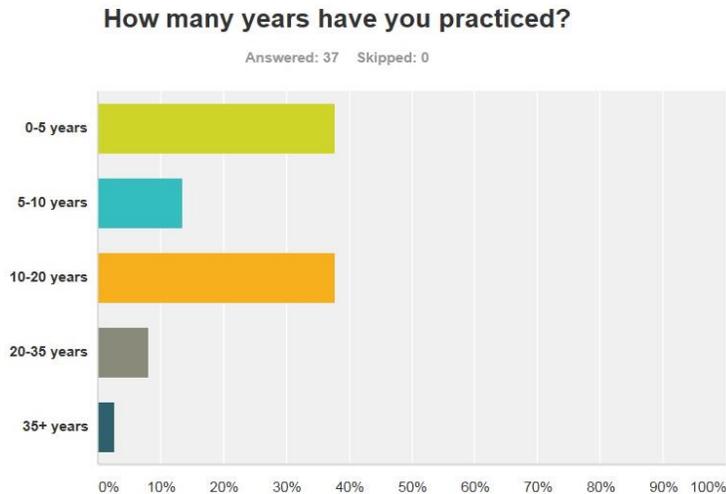


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Question 2: How many years have you practiced?

All 37 participants responded to this question. The categories of 0-5 years and 10-20 years both had 14 responses (37.84%) each. Only one participant has been working for 35+ years.

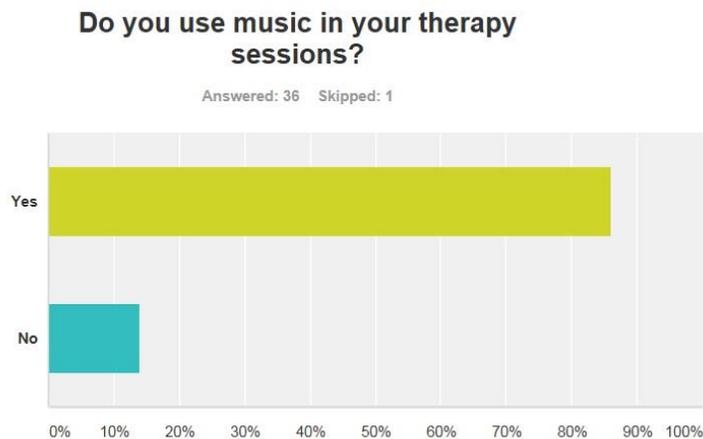
Table 2: Years of Practice



Question 3: Do you use music in your therapy sessions?

There were a total of 36 responses and one skip. Thirty-one participants (86.11%) said that they utilize music in therapy, while 5 participants (13.89%) do not use music in therapy.

Table 3: Music in Speech Therapy

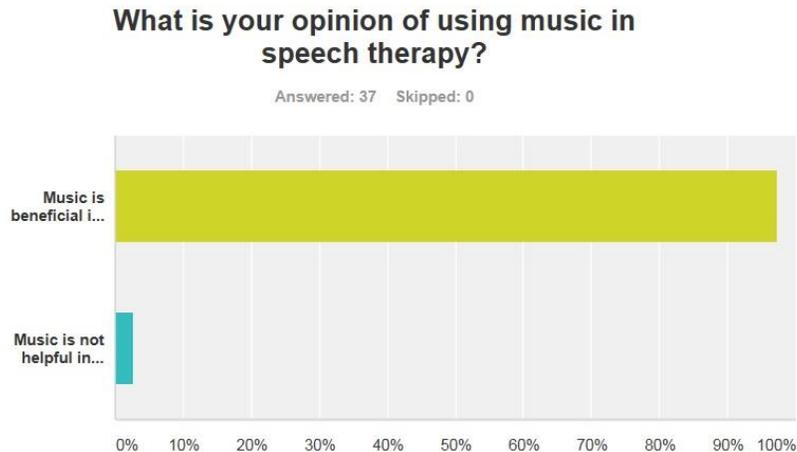


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Question 4: What is your opinion of using music in speech therapy?

All 37 participants responded to this question. Thirty-six participants (97.30%) believe that music is beneficial. However, one participant thinks that music is not helpful.

Table 4: Opinion of Music in Therapy

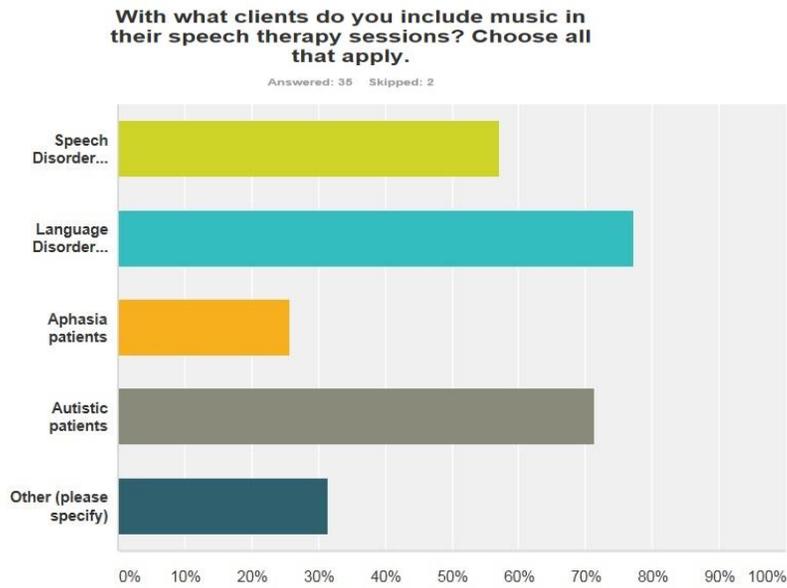


Question 5: With what clients do you include music in their speech therapy sessions?

Choose all that apply.

Thirty-five out of 37 participants responded to this question. Twenty-seven participants (77.14%) include music in therapy with language disorder patients. Twenty-five participants (71.43%) use music with autistic patients, while nine participants (25.71%) use music with patients who have aphasia. There were 11 responses in the “Other” category. Some of those responses included dysphagia therapy, children with multiple disabilities, adults with dementia, fluency patients, and apraxia patients. One participant stated that he/she does not currently use music but that it would be beneficial for “preschool age students who are language delayed or on the autism spectrum.”

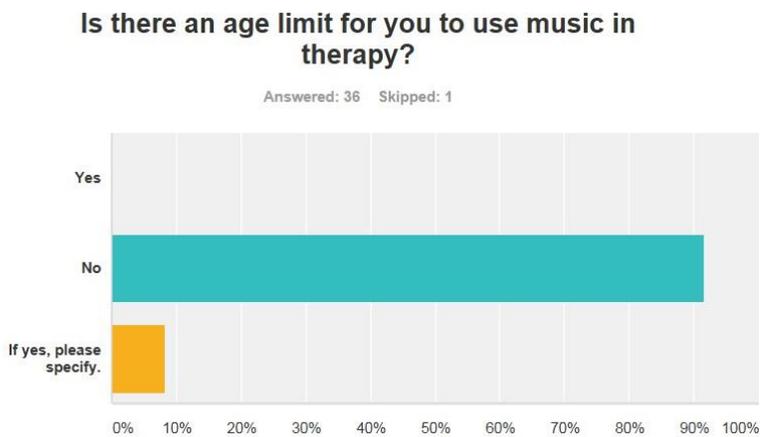
Table 5: Clients and Music Therapy



Question 6: Is there an age limit for you to use music in therapy?

There were 36 responses to this question and one skip. Thirty-three participants (91.67%) chose “No,” while two participants responded with the preschool and lower elementary population. The other participant specifically said age six.

Table 6: Age Limit for Music

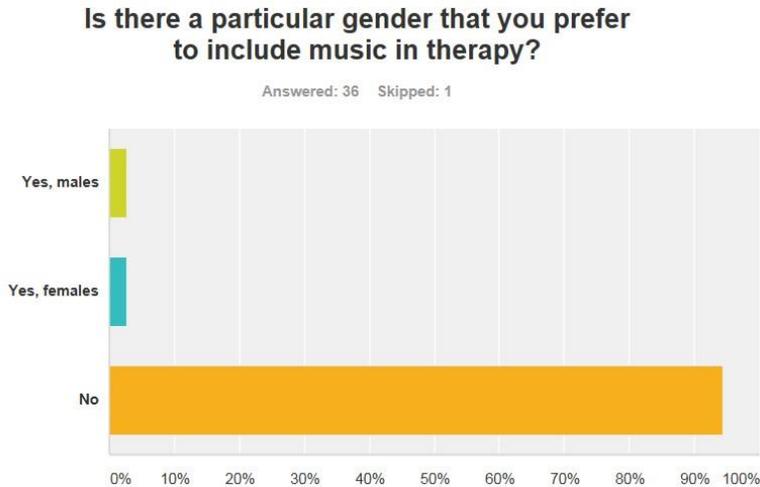


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Question 7: Is there a particular gender that you prefer to include music in therapy?

Thirty-six out of 37 participants responded to this question. Thirty-four (94.44%) said “No” to a gender preference. However, the other two participants did have a gender preference; one chose males while the other chose females.

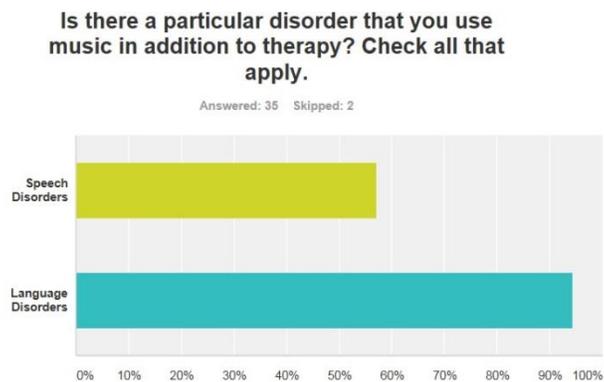
Table 7: Gender Preference for use of Music in Therapy



Question 8: Is there a particular disorder that you use music in addition to therapy? Check all that apply.

There were a total of 35 responses to this question. Thirty-three participants (94.29%) chose language disorders while the remaining 20 participants (57.14%) chose speech disorders.

Table 8: The Use of Music in Therapy for Particular Disorders

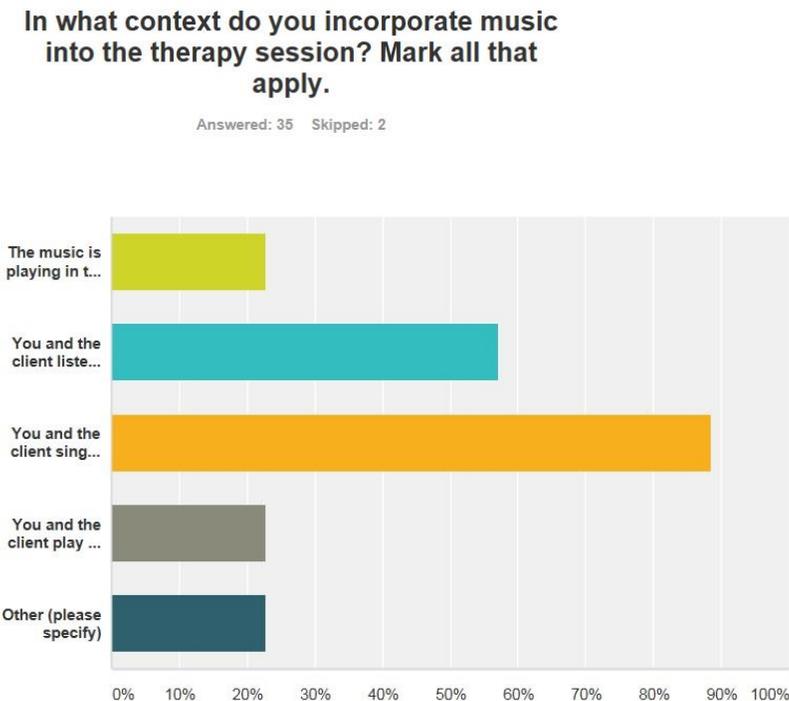


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Question 9: In what context do you incorporate music into the therapy session? Mark all that apply.

Thirty-five participants responded and 2 skipped this question. The most common response was “you and the client sing together;” 31 participants (88.57%) chose this answer choice. The next common response was “you and the client listen to music together,” in which 20 participants (57.14%) chose. There were 8 responses in the “Other” category. Some of those responses include “using a beat and timing to say sounds, words, or phrases.” In addition, some clients request “to listen to a preferred song” and “act out/follow directions” to the movements. One participant said that they “sing words and use gestures/motions that go along with the song—Wheels on the bus, itsy bitsy spider, etc.” He/she also uses “objects that go with a song” For example, he/she will use “stuffed animals or felt figures for Old McDonald or 5 Little Monkeys.”

Table 9: The Context of Music

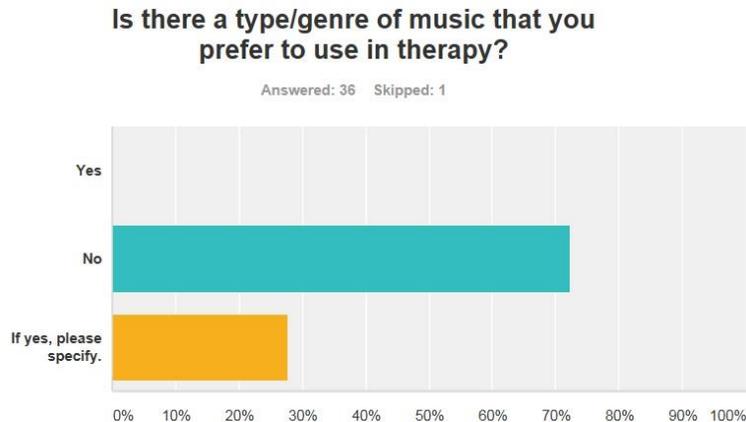


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Question 10: Is there a type/genre of music that you prefer to use in therapy?

There were a total of 36 responses to question 10. Twenty-six participants (72.22%) responded that there is not a preference in the type/genre of music that he/she uses. However, there were 10 responses (27.78%) from participants that said there is a preference in the music used. Some of those responses include “educational/children’s music” and “music developed to use in therapy.” One participant wrote that “for [the] geriatric population [he/she uses] gospel and music around the time period when [the patient] grew up (40’s, 50’s).” Another participant said that he/she uses “classical, jazz, easy listening [music,] or a genre that [the] patient selects that is soothing from their perception.” In addition, another participant stated that he/she uses “music with lyrics that teach basic concepts and [where the] vocabulary is presented numerous times.”

Table 10: Genre of Music used in Speech Therapy



Chapter 5

Discussion and Conclusion

The data collected in this study remained consistent throughout the entire survey. Music was used in therapy with all ages and many different types of disorders. The majority of the participants discussed using music with young patients who have language disorders and/or autism. The emphasis on language disorders and autism in young children may be a result of the 27 participants (72.97%) considering they work in educational settings/schools. In the future, other studies can be more specific to a particular setting and their utility of music.

Music plays a significant role in the southern culture. Therefore, Mississippi may utilize music in therapy because of its impact in the culture. Further studies can be conducted in order to determine the use of music in speech therapy in the northern parts of The United States and/or other parts of the world. Would those results be similar to this study?

This study demonstrated that music is being used in therapy and can, therefore, have a positive effect on the client. For those participants who do not use music in their speech therapy, perhaps this survey inspired them to conduct research on the effect music has in speech therapy.

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Appendices

Appendix A: Participant Consent Letter

Today's date: March 9, 2016

PROJECT INFORMATION

Project Title: The Effect Music has in Speech Therapy

Principal Investigator: Emily Nester **Phone:** 601-480-0917 **Email:**
emily.nester@eagles.usm.edu

College: The University of Southern Mississippi **Department:** Speech and Hearing Sciences
College of Health

RESEARCH DESCRIPTION

1. **Purpose:**

The purpose of this research is to determine how many therapists use music in their therapy sessions, and what are the speech therapist's perceptions of the effectiveness of using music in speech therapy.

2. **Description of Study:**

This study will include a simple, ten question survey for MSHA (Mississippi Speech-Language-Hearing Associations) certified speech pathologists to identify if they use music in therapy sessions, and if so, how. The survey will take no longer than five minutes to complete and requires no restrictions on normal activities or invasive techniques.

3. **Benefits:**

No benefits or payments will be given to the participants of this study.

4. **Risks:**

This study involves no physical, psychological, social, or financial research-related risks, inconveniences, or side effects (expected and potential). There is no potential for a medical injury.

5. **Confidentiality:**

The electronic data collected from this study will be password protected. This study is completely voluntary, and the participant[s] may opt out at any time.

6. **Alternative Procedures:**

No other alternative procedures will be presented to the participant[s] in this study.

7. Participant's Assurance:

This project has been reviewed by the Institutional Review Board, which ensures that research projects involving human subjects follow federal regulations.

Any questions or concerns about rights as a research participant should be directed to the Chair of the IRB at 601-266-5997. Participation in this project is completely voluntary, and participants may withdraw from this study at any time without penalty, prejudice, or loss of benefits.

Any questions about the research should be directed to the Principal investigator using the contact information provided in Project Information Section above.

CONSENT TO PARTICIPATE IN RESEARCH

Consent is hereby given to participate in this research project. All procedures and/or investigations to be followed and their purpose, including any experimental procedures, were explained to me. Information was given about all benefits, risks, inconveniences, or discomforts that might be expected.

The opportunity to ask questions regarding the research and procedures was given. Participation in the project is completely voluntary, and participants may withdraw at any time without penalty, prejudice, or loss of benefits. All personal information is strictly confidential, and no names will be disclosed. Any new information that develops during the project will be provided if that information may affect the willingness to continue participation in the project.

Questions concerning the research, at any time during or after the project, should be directed to the Principal Investigator with the contact information provided above. This project and this consent form have been reviewed by the Institutional Review Board, which ensures that research projects involving human subjects follow federal regulations. Any questions or concerns about rights as a research participant should be directed to the Chair of the Institutional Review Board, The University of Southern Mississippi, 118 College Drive #5147, Hattiesburg, MS 39406-0001, (601) 266-5997.

Click on the link below to access the survey. Continuing to the survey implies consent to participate.

<https://www.surveymonkey.com/r/WBXVKJD>

Appendix B: Institutional Review Board Approval



INSTITUTIONAL REVIEW BOARD

118 College Drive #5147 | Hattiesburg, MS 39406-0001

Phone: 601.266.5997 | Fax: 601.266.4377 | www.usm.edu/research/institutional.review.board

NOTICE OF COMMITTEE ACTION

The project has been reviewed by The University of Southern Mississippi Institutional Review Board in accordance with Federal Drug Administration regulations (21 CFR 26, 111), Department of Health and Human Services (45 CFR Part 46), and university guidelines to ensure adherence to the following criteria:

- The risks to subjects are minimized.
- The risks to subjects are reasonable in relation to the anticipated benefits.
- The selection of subjects is equitable.
- Informed consent is adequate and appropriately documented.
- Where appropriate, the research plan makes adequate provisions for monitoring the data collected to ensure the safety of the subjects.
- Where appropriate, there are adequate provisions to protect the privacy of subjects and to maintain the confidentiality of all data.
- Appropriate additional safeguards have been included to protect vulnerable subjects.
- Any unanticipated, serious, or continuing problems encountered regarding risks to subjects must be reported immediately, but not later than 10 days following the event. This should be reported to the IRB Office via the "Adverse Effect Report Form".
- If approved, the maximum period of approval is limited to twelve months.
Projects that exceed this period must submit an application for renewal or continuation.

PROTOCOL NUMBER: 16012602

PROJECT TITLE: The Effect Music has in Speech Therapy

PROJECT TYPE: New Project

RESEARCHER(S): Emily Nester

COLLEGE/DIVISION: College of Health

DEPARTMENT: Speech and Hearing Sciences

FUNDING AGENCY/SPONSOR: N/A

IRB COMMITTEE ACTION: Exempt Review Approval

PERIOD OF APPROVAL: 03/11/2016 to 03/10/2017

Lawrence A. Hosman, Ph.D.

Institutional Review Board