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A SONG TO REMEMBER: THE EFFECTS OF MUSIC THERAPY ON INDIVIDUALS WITH
ALZHEIMER'S DISEASE

A Thesis Submitted
in Partial Fulfillment
of the Requirements for the University Honors

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University of Northern Iowa
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This Study by: Gabrielle Woods

Entitled: A Song to Remember: The Effects of Music Therapy on Individuals with Alzheimer's Disease

has been approved as meeting the thesis or project requirement for the University Honors

Date

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Introduction

Alzheimer's disease (AD) is a terminal and progressive degenerative disease. It accounts for 60-70% of dementia cases (Lunde, 2007). AD begins with mild symptoms developing into severe cognitive decline and behavioral abnormalities. Symptoms include but are not limited to memory loss, disorientation, mental confusion, and poor judgment. Through screenings like neuropsychological tests and Mini Mental State Evaluations (MMSE), doctors can accurately diagnose AD with up to 90% accuracy (Lunde, 2007).

Currently, AD affects more than 35 million people worldwide and takes a detrimental toll on the health of their caregivers (Galvin, 2017). Projections say that by 2050, AD will impact over 60 million lives if no medical advances succeed (Gavin, 2017). Medical drug trials can take decades to complete. Caregivers need easy to facilitate health interventions that are both effective and efficient. Music therapy (MT) serves as one immediate health intervention. MT is a nonpharmacologic treatment with the capacity to regulate emotions, increase social behaviors, and encourage self-expression in those with AD (Brotons & Koger, 2000; Vink et al. 2012).

Purpose/Significance

The purpose of this creative thesis is to communicate the effects MT and music being used therapeutically can have on three residents in the midstage of dementia caused by AD. Residents from Thalman Square Memory Care Unit at Western Home Communities in Cedar Falls, Iowa and Parker Place Retirement Community in Parkersburg, Iowa participated in the exploration of this project. Three participants' personal responses to music were recorded and made into a video documentary. This unique video contribution encapsulated each resident's raw emotion and experience to impart the benefits of music interventions for caregivers and the general public's understanding.

Definitions

- Music Therapy:
 - The creative use of music to increase the quality of life of individuals, which can involve listening to, singing, or playing music. Music therapy has the capacity to enhance communication, minimize anxiety, and improve cognitive functioning in participants (Matthews, 2015).
- Alzheimer's Disease:
 - Terminal progressive and degenerative disease of the brain. Symptoms result in: memory loss, personality changes, confusion, disorientation, and impaired thinking (Pollack & Namazi, 1992).

Literature Review

Previous Research

To establish a direction for this creative thesis project, it is important to understand previous literature regarding the effects of MT on individuals with AD. The reviewed literature investigated short-term effects in language functioning, agitation levels, and participant socialization during and after MT sessions. The number of participants, their cognitive status, the delivery methods of MT, and the duration of MT ranged greatly between research studies.

Characteristics of Alzheimer's Disease

The progression of AD slowly deteriorates an individual's neurological abilities, leaving them often incapable of engaging with their surroundings or in conversation. Multiple cognitive symptoms contribute to the decline of independence and social interaction in individuals with AD: delusions, disorientation, difficulty thinking and comprehending, forgetfulness, and inability to store new memories. As a result of these cognitive barriers and neurodegeneration, an

individual's socialization behavior patterns alter. Individuals with AD become aggressive, moody, irritable, and lose their speech patterns resulting in language deficits (Dassa & Amir, 2014). Each of these behaviors contributes to an individual's inability to live connectively with their surroundings and engage in conversation.

Linguistic deficits caused by the progression of AD result in ineffective communication and decreased socialization between caregivers and those receiving care. Language deficits manifested by the disease include mumbling, sentence fluency, inability to identify objects or people, and spontaneous diction (Dassa & Amir, 2014). Conversational skills result in empty speech patterns: repetitions, random words, sounds, and stutters (Dassa & Amir, 2014). These speech patterns make it difficult for an individual to hold conversations with loved ones, caregivers, other residents, or staff members within their facility. Conversational barriers negatively contribute to a person's sense of belonging, which can lead to feelings of loneliness and isolation. MT is a therapeutic intervention addressing the communicational and social needs of people with AD.

Music Therapy as Treatment

MT enhances the quality of life of individuals with AD by creating a bridge for communication and cognition; MT reduces symptoms and provides a temporary gateway back into the social world for those with AD (Dassa & Amir, 2014). Despite a person's decline in language, memory, mobility, or conversational abilities, people with AD preserve their ability to sing meaningful songs related to their past. This is possible because people associated different songs with significant emotions and memories in their past. The feelings and experiences connected to those songs are stored in areas of the brain that may be unaffected by the disease (Matthews, 2015). Reintroducing older songs that were significant to individuals with AD allows

them to access their long-term memories. Haj, Clement, Fasotti, & Allain (2013) reports, “Autobiographical recall of AD patients is even more enhanced when the patients are exposed to their own chosen music” (p. 691). Through MT individuals gain access to involuntary memories that were temporarily lost due to the progression of AD.

Song Selections. To investigate the effects MT has on individuals with AD, researchers diligently chose a group of songs relevant to each participant. Consistently, literature agreed that song selections should be based on popular music in their participants’ late teens and early twenties; familiar and preferred music from a person’s late teens and early twenties should be used during MT interventions (Dassa & Amir, 2014). However, there was not a very consistent method of song selection found throughout the literature reviewed.

Researchers used different techniques to determine the precise songs to use for their MT intervention. Pollack and Namazi (1992) chose music according to each participant’s previous MT session responses to musical activities: dancing, singing, whistling, and playing instruments. Other studies had longer song selection processes to determine the participants’ preferred music. Dassa and Amir (2014) started with 24 cultural songs popular during the participants’ adolescent years or early twenties. Each song was rated by two independent judges who attended the sessions and given scores of familiarity 1-5 on a Likert Scale. The highest scoring was used during the MT sessions for their research study.

Participants. Many commonalities and differences exist regarding eligibility criterion for individuals participating in this type of research. Participants in each of the reviewed literature must have been diagnosed with AD. Researchers commonly required their participants to be in the middle to late stages of dementia of AD. To keep studies controlled as possible, researchers assess each person’s cognitive level of functioning. Each researcher presented in the literature

gave a minimum of one baseline assessment to evaluate participants with AD. Gallego and Garcia (2017) used multiple scales including the Neuropsychiatric Inventory, Mini-Mental State Examination, Barthel Index, and the Hospital Anxiety and Depression Scale (Cummings et al., 1994; M. Folstein, S. Folstein, & McHugh, 1975; Mahoney & Barthel, 1965; Zigmond & Snaith, 1983). Other researchers like Brotons and Koger (1992) used fewer scales to measure cognition: Mini-Mental State Examination and the Western Aphasia Battery to measure language abilities. Different measuring scales were used to gauge a participant's cognitive limitations.

The most frequently used scale reappearing within the literature that determined a participant's cognitive status is called the Mini Mental State Examination (MMSE) (Dassa & Amir (2014); Pollack & Namazi (1992)). The MMSE takes a short amount of time to administer and gives a total score ranging from 0-30 points. Wide ranges of abilities were evaluated through the MMSE: language, verbalized memory, and time and place orientation (Gallego & Garcia, 2017; Silber, 1999). Individuals in the middle to late stage of AD received a score ranging from 0-20 on the MMSE.

Sample Size. Among the reviewed literature, researchers had anywhere from 6-42 participants present in their data collections. Numbers of participants varied due to eligibility requirements. To control their research as much as possible, investigators excluded people with certain characteristics or symptoms. Exclusion criteria for participants were commonly mental or chronic illnesses (e.g. traumatic brain injuries, or substance dependence history) or symptoms that would prohibit communication between the facilitator and the participant. For example, Gallego and Garcia (2017) excluded residents who were deaf or aphasic to ensure participants could clearly comprehend procedural instructions. Precautions such as this often resulted in reduced numbers of eligible participants.

Methodological Themes of Previous Research

Researchers used different administrative methods to study MT's effects on cognition and social behavior; the format of MT sessions differed among the reviewed literature. MT was administered both actively and passively to research participants at their residential living area. Active MT techniques involve more participant engagement than passive techniques. Singing, playing an instrument, or composing the melody are considered an active MT intervention. Contrastingly, a passive MT intervention is one where participants listen to a live or recorded musical piece. Silber (1999) described, "Music used as a background does not require the person's attentiveness, but rather creates a nonthreatening atmosphere and acts as a facilitator" (p. 198).

Active and passive MT was delivered during one-to-one sessions, small group sessions, and via headphones in the reviewed literature. Group MT sessions were typically organized into groups of two to four participants (Brotons & Koger, 2000). Therapists actively or passively played 4-10 songs during each session with occasion handouts of lyrics provided for group members. Every MT intervention conducted had duration of 20-45 minutes in length and was facilitated 2-3 times each week. The study by Lancioni et al. (2012) was the only exception to these generalizations. Participants in this study self facilitated their electronic sessions through the use of a computer and headphones to identify their social preference of MT implementation. Overall, to investigate social behaviors, researchers organized different forms of MT from 2 to 6 weeks.

Frequencies of social behavior were commonly measured and observed before and after treatment sessions. Brotons and Koger (1992), Haj et al. (2013), and Pollack and Namazi (1992), used silence and music as two experimental conditions to investigate the social effects of MT.

Each participant's socialization behavior was observed before the MT session (silence condition), and during or directly after the MT session (music condition).

Following the MT sessions, therapists would typically asked open-ended questions to facilitate conversation relevant to the songs. Brotons and Koger (1992), Dassa and Amir (2014), and Haj et al. (2013) took audio or video recordings of each of their MT session. Audio and video recordings were reviewed and used during data analysis. Conversational themes that arose were analyzed and put into categories to decipher the song's role in relationship to the conversation following the session.

Findings

Researchers have difficulty measuring and quantifying improved quality of life from MT to people with AD and other dementias. No standard evaluation currently exists to determine the degree of improvement from MT (Broton & Koger, 2000). For this reason, results differ greatly depending on the behavioral or cognitive factors being measured. Research measuring language performance, specifically speech content and fluency, closely approached but did not result in statistical significance (Broton & Koger, 2000). This can also be attributed to the limited number of participants represented in the analysis. Researchers measuring agitation levels reported decreases in agitated behavior throughout the MT session, but none more statistically significant than other recreational activities (Vink et al., 2013). Additional research is required to effectively convey the impact MT has on reducing agitation. Research measuring language performance and agitation levels in people with AD does not accurately communicate the benefits MT has on this population.

Researchers investigating the social behavior of their participants after MT sessions had more significant results compared to literature exploring agitation levels and language

performance. The frequency of social behavior in individuals with AD increased during and directly after MT. Overall, there were increases in direct verbal, direct nonverbal, and indirect social behavior in the reviewed literature (Dassa & Amir, 2014; Pollack & Namazi, 1992; Rossato-Bennett, 2014).

Researchers commonly organize MT sessions prior to administering each participant's assessment. Brotons and Koger (2000) and Pollack and Namazi (1992) engaged their participants in MT for three to six months before their assessments began. Researchers anticipated the familiarity with the therapists would produce affects with participants. Researchers who provided prior MT sessions saw no differing or more notable effects in the results of their studies compared to those who did not.

Research commonly resulted in statistical insignificance when measuring MT's effects on people with AD; quality of life is difficult to statistically measure when effects are short-term. Matthew (2015) claimed, "It is simply that the ability to engage another socially may be rekindled" (p. 575). Witnessing the raw emotion and actual experiences MT brings through a video documentary demonstrates its impact in a way literature cannot. Documentaries like *Alive Inside* (Rossato-Bennett, 2014) and *The Alzheimer's Project* (Shriver, 2009) have further inspired this thesis project to take a documentary approach. *The Alzheimer's Project* from Shriver (2009) demonstrated the impacts an AD diagnosis can have on families. *Alive Inside* (Rossato-Bennett, 2014) follows social worker, Dan Cohen, throughout stages of his passionate nonprofit organization called Music and Memory. Throughout the film, Dan records individuals with AD and other dementias who have had meaningful effects to MT. These recordings have served in educating caregivers and the general public about MT's illuminating effects on this population.

Critical Evaluation

Strengths of Research. Each of the literature articles used a combination of similar methods to study the different effects of MT. One overarching strength of the reviewed literature is the improved methodology over the course of time. Studies conducted in the 1990's had a more simple methodological procedure than those in the early 2000's. Further, the most recent articles in 2014 and 2017 had a more detailed procedure than those in the early 2000's. Each study built on the foundation that was laid by earlier researchers studying the social effects MT has on this population. Evolutions such as these demonstrate a growing body of knowledge in this area of research.

In order to gain more understanding of the evolution it is helpful to examine the research methodology by Lancioni et al. (2013). This research team used present day technology to enable participants to self-regulate their MT intervention. The study used basic technology to allow participants to facilitate their own music input by using a microswitch response. The computer verbally reminded participants of their responses in case an individual was disoriented or forgetful.

Allowing participants to self regulate their music eliminates the need for a MT facilitator. This advancement is beneficial because it eliminates the probability of human error and the influence a therapist has on the group of participants. Computerized data analysis ensures a consistent and standard scale of measure. This was found more socially preferable due to the freedom, independence, and sense of self it provided participants. Positive experiences encourage an individual to socially engage.

Weaknesses of Research. The evaluated literature contained multiple weaknesses within the research. AD can only be diagnosed with 100% accuracy after a person's death; it takes an

autopsy to prove an individual has AD. Participants who were diagnosed with AD have a possibility of being misdiagnosed. Misdiagnosis can contribute to inaccurate results for the sample population. Further, the MMSE has evolved and improved overtime as research regarding dementia has grown. This indicates that different versions of the MMSE could be present throughout the reviewed research; the MMSE used in Pollack and Namazi (1992) may not be the same MMSE assessment used in more current research by Dassa and Amir (2014). Individuals who scored 0-20 on the MMSE to qualify for one of the reviewed studies would not necessarily qualify for a similar study being conducted in later years. These two components do not allow the general public to make personal conclusions about the social benefits of MT.

Pollack and Namazi (1992), along with other authors, admitted the low numbers of participants represented in their data analysis was a major weakness. Having a larger sample size is important for a number of reasons. First, higher sample sizes are a better representation of a population. Secondly, higher sample sizes have less variability. Higher numbers of participants are crucial for the validity of research examining the social effects of MT.

The final weakness to discuss regarding the literature is the length of time researchers monitored their sample populations. Two to six weeks is not an appropriate length of time to identify every factor that contributes to an individual's ability or desire to engage during MT. Performing an in depth analysis of each participant's musical background would help evaluate how an individual's musical background might influence their social engagement.

Gaps in Literature. Researchers Gallego and Garcia (2015) and Pollack and Namazi (1992) analyzed if the severity of dementia influenced the degree of change seen in residents. The relationship between the severity of dementia in people with AD and the degree of improvements MT provides is not fully understood; no correlations were determined in either

study. Only one research reviewed examined both a group of individuals with mild dementia of AD and a separate research group with moderate dementia of AD (Gallego & Garcia, 2017). According to Brotons and Koger (2000), “Studies using larger samples might establish a pattern of response related to functioning level if individual differences in cognitive loss and behavioral characteristics are considered” (p. 65). Validating which specific population benefits the most from MT could influence the design of long-term care facilities. More research is required to validate if MT is more affective or beneficial for individuals with mild or moderate dementia of AD.

Of the literature reviewed, there are no existing reports or discussions addressing how a participant’s personality contributes to their likeliness to engage in conversation to gage effects during or after MT. Though ideally expected to enhance an individual’s ability to collaborate with others, the question of whether an individual *desires* to be socially active with the group or facilitator has not been answered. Commonly, the research participants within a study are residents of the same care facility (Brotons & Koger 2000; Gallego & Garcia, 2017; Pollack & Namazi, 1992). This indicates that there may be preexisting relationships between the participants in the studies. This factor could contribute to a participant’s desire to behave or engage with their surroundings; preexisting relationships could refrain or encourage participants to socially involve themselves in the MT session.

Direction for Future Research. Few research articles written in the past ten years strictly focus on the social effects of MT for people with AD. It is possible that researchers take a medically-based approach rather than a quality of life approach to their research. Further research should be investigated to fully understand the connection between self-expression and singing on conversational patterns. Researchers suggest investigating the combination of dance

therapy with MT for the purpose of improving self-expression and motor functioning (Gallego & Garcia, 2017).

Conclusion

Increasing rates of AD and dementia are projected in the United States and other countries. Each pharmaceutical approach toward disease-modifying agents since 2003 have failed, which demonstrates a desperate need for creative, low cost, nonpharmaceutical interventions (Gavin, 2017). MT is a practical and ethical intervention increasing the quality of life of those with AD. MT permits individuals with AD and other dementias access to friendships, speech, emotions, memories, and their sense of self that has been stolen from them. Participation in MT not only enhances quality of life of patients but provide a social gateway for connecting with caregivers, family members, and peers. Temporarily, music can elicit social and cognitive awakenings other forms of medication and therapy cannot manifest. My creative project demonstrates these social benefits and cognitive awakenings in the form of a video documentary.

Methodology

The creative portion of this thesis was conducted with IRB approval and with appropriate informed consent documents signed by each participant's family. Upon approval of all necessary documentation, I arranged a one-to-one music session with each of the three residents with middle to late stage AD from Thalman Square Memory Care Unit at Western Home Communities and Parker Place Retirement Community. I selected participants based on the eligibility of residents and through the recommendations from the therapeutic recreation specialist at Thalman Square and manager at Parker Place Retirement Community. By speaking with each family and music therapist at each center, I was informed of each resident's preferred

music. I implemented each resident's preferred music type in their music session to enhance his or her experience. Two video cameras recorded each resident's response during and shortly after I played their preferred music. Once the music ended, I asked reflective questions that encouraged them to elaborate on memories they have relating to the song. Reflective questions stimulated conversation to assess their change in mood and conversational engagement. Each music session and question response captured on video were uploaded into a video editing software. Sections of these clips formed part of the short documentary around 10 minutes in length. Other sections of the documentary included narrations and interviews from professional caregivers at Western Home Communities and Parker Place Retirement Community.

This honors thesis takes the form of a creative project that resulted in a short video documentary. Video cameras and tripods from Rod Library were used to capture necessary footage for the video documentary. By publishing this 10-minute documentary on Youtube, accessibility is provided to all people with Internet access. The link to this documentary can be found below:

<https://www.youtube.com/watch?v=0F4AVZ068OI>

This work can be shared on different media outlets (e.g. Facebook, Twitter, Instagram) to inform other caregivers how music can be used therapeutically. This video speaks for each resident and tells their stories when they are not able to (Society, Alzheimer's, 2017).

Critique of Creative Process

Predicting the responses residents might have from playing music is not possible due to a number of reasons: an individual's level of expressiveness, daily moods, their musical backgrounds, and other unforeseeable events. The process of collecting footage for my documentary of residents' experience to music was more difficult than I anticipated. Capturing and communicating each resident's response to the music played did not go as efficiently as I hoped it would.

Each music session I witnessed further intrigued me of the pathways and neurological transmissions taking place in the brain. It was very evident through each resident's expressions that neurological changes were occurring. I saw changes in some of the resident's eyes when they first heard the familiar tune. The residents I worked with were in a sense coming to life right before my eyes; their minds made connections and memories, which were lost to AD. Unfortunately, the cameras were not as close to the residents as I was; video cameras did not capture every detailed expression as closely as I hoped they would.

Weaknesses of Procedure

Multiple details within the documentary process of my project were not anticipated regardless of my efforts to foresee them. Three project weaknesses resulted from not anticipating which specific residents I would work with and the difficulty of simultaneously recording and facilitating sessions: the number of individuals eligible for my documentary at Thalman Square, my video management strategy, and possible biases. Describing these three weaknesses in depth will further communicate the progression of my project.

The first major weakness of this project was my expectation of residents eligible for my documentary at Thalman Square Memory Care Unit. During the fall semester I spent four hours

each week volunteering and leading therapeutic recreation activities in Thalman Square to learn more about residents. To my surprise, only three residents' charts in Thalman Square had documentation that verified a specific diagnosis of dementia of AD. Almost every resident's chart checked by the Therapeutic Recreation Specialist had an undetailed description that read, "dementia." Due to this documentation style, close to 90% of the residents did not qualify as participants in my project documentary; specifically I needed residents who were believed to have dementia of Alzheimer's type.

Discovering Thalman Square's documentation style a month before I was scheduled to begin recording particularly worried me. I feared if one of those three individuals did not show a real response to music during our session together, the quality of my documentary might diminish. Unfortunately, a larger problem than this was unforeseen: one of the primary caregivers of the three residents who qualified for my thesis project was not interested in having their mother participate. In response to this news, I sought advice from my Thesis Advisor who referred me to a new location to find the final resident for my documentary. I was given the contact information of the Manager at Parker Place Retirement Community in Parkersburg, Iowa. Here I conducted my final music session with my last resident after undergoing meetings and IRB approval.

The second major weakness in my thesis documentary was my video management strategy. Being familiar with the video editing program for the documentary was not a sufficient preparation for me because I had used a more advanced library camera that I was less familiar with. I should have had a more clear understanding of the camera I would be using for my documentary. This aspect of my project elongated the time it took to edit the documentary.

Being the only videographer for my documentary made it particularly difficult to facilitate a focused music session with the residents of Thalman Square and Parker Place Retirement Community. By placing myself in charge of recording the time I spent at the facilities made it particularly difficult to capture the footage in a natural way. At the start of my project, I was confident I could manage recording the footage from each music session with little difficulty. However, I should have recruited an extra person to help manage recording the music sessions.

During my video documentary participant sessions, occasional biases were not anticipated which serves as my third project weakness. After the first music session, I learned my nonverbal communication might have influenced responses to the questions I was asking. When I smiled, the resident would smile back. Nonverbal cues made it more challenging to communicate the specific effects music had on the residents.

If there were not time restraints on my thesis project, I would have facilitated many more individual music sessions with residents. By recording larger numbers of residents, I could have pieced together a documentary with more significant and visible responses to music. Due to only recording three residents one time each, I gathered limited footage. Gathering footage of people who have diverse musical backgrounds, personality types, and ages may have helped more clearly communicate the effects music can have on people with AD.

Strengths of Procedure

Three main project strengths were evident throughout the process of my thesis and production of my documentary: making active reflections, the ability to make adjustments, and my communication with Thalman Square and Parker Place Retirement Community. The

successful quality of my documentary was due to the dedication to constantly refine my project procedures, which is manifested in these three strengths.

Following the recording of the first resident, I took an hour to do an active reflection and realization of what went wrong and what went right. When I finished recording my first resident I noticed her responses would need to have narration to accompany her footage. Upon realizing this, I immediately contacted the Certified Therapeutic Recreation Specialist and the Music Therapist who frequently spends time with her. Including interviews of each of them in the documentary helped communicate the resident's responses, goals, and reactions further. As my project progressed, I saw specific times where I needed to add my own personal narration in the documentary. My ability to reflect on every conversation and situation made me keenly aware of how to improve my documentary as I moved forward.

I was determined to improve the quality of the experiences by coming more prepared for the next session. After recording my first resident, I noticed small adjustments that needed to be made to ensure recording the next two residents would go better and more efficiently. The fixes I reflected on were minor adjustments: fixing the lighting in the room, adjusting sound, getting a different tripod, and deciding if I would be featured in the clips with the residents. I learned very quickly that small adjustments made a big difference in the quality of the documentary I was producing.

In order to make proper adjustments, it was vital to have open communication with everyone involved in the locations I was filming at. My open communication with workers and the residents' families was my third and final strength throughout my project. The people working in Thalman Square and Parker Place Retirement Community were very accommodating and attentive to the needs of my project. During my visits to these locations, I represented not

only myself, but also the UNI Honors Program, my major and minor departments, and ultimately the University of Northern Iowa at large.

Thalman Square at Western Home Communities

The residents I spent time with, Jeanne, Phyllis, and Beverly, were all homogenous. Each of the residents were white, female, diagnosed with AD, and lived in a memory care facility. The first resident featured in my documentary project was 93-year-old Jeanne. Jeanne was in middle to late-stage dementia of AD. One primary challenge arose during our time together: she is extremely hard of hearing. After gaining consent by speaking with her daughter, I learned she refused to get hearing aids. With this in mind, I came prepared to our session with different music accommodations to offer her. Music could be played to her through headphones or the Thalman Square's music amplifier if she was unable to hear my laptop speaker. Neither of these accommodations was necessary to implement; setting my laptop in close vicinity on high volume accommodated her well.

Jeanne showed positive emotions during each song I played with her. Throughout the duration of the music she tapped her hand and foot to the beat of the music and remained very at peace. At times, however, I was unable to distinguish if her joyful expressions were from the music being played or my presence next to her. Following the end of our music session, I asked Jeanne simple questions in attempt to gauge her cognitive level. The purpose of asking questions was to see if I could capture any change in cognition and memory similar to what I had seen in my prior experiences at Thalman Square. She answered many of my questions with, "yeah" or "yeah, I think it is." Almost all of Jeanne's responses to my questions were neutral. None of her responses indicated a specific change in her cognition or memory. I hoped to see more prominent changes and effects from the second resident I spent time with.

The second resident I facilitated a music session with, Phyllis, had minimal responses and interest in the music I played. Phyllis was an 80-year-old woman in middle stage dementia who did not have a musical background. Her lack of musical background early in life may have contributed to her responses. Phyllis did not engage in any hand and foot tapping and showed no change in mood. Regardless of these neutral reactions, I believe music have one significant effect on her. The remarkable effect I saw happen during our time spent together was the recollection of her child's name. Before we played our three songs together, she was unable to remember one of her five children's names. After we finished listening to a song, she was able to recall the name of her last child. These observations may or may not have been due to the effects of music.

Parker Place Retirement Community

The third and final resident featured in my documentary, Beverly, was an 86-year-old woman in the midstage of dementia at Parker Place Retirement Community. I observed and recorded very positive responses she had during group MT, which was facilitated by her music therapist. After the finish of her MT session, we then walked to her individual room to listen to three songs together. Beverly displayed an immense amount of joy during each song that was played during group MT and our one-on-one music session: she sang, tapped her foot, or tapped her hands to the beat of each song. Often times the Beverly engaged in all three of these activities with a large smile on her face. In addition, I witnessed two significant effects that music had on Beverly's memory when discussing how the songs made her feel.

After each song played in our one-on-one music session was over, I asked Beverly what memories that song reminded her of. She responded by describing in depth memories of going dancing as a young woman and about her mother and father. When the last song was over, she continued talking about her life as a young woman until then the conversation transitioned to her

kids. During this time I learned that her son had a son of his own. However, when we were speaking about her same son ten minutes later, she told me he did not have a son of his own. Short-term memories of her grandson were lost after more time had passed. This was the first significant change in memory that I witnessed after our music session.

The second significant change I recorded during our time together was Beverly's recollection of the instrument she played as a young woman. Before I played any music with Beverly one-on-one, we had spoken about her musical background; she had played an instrument, however, she was unable to remember the name of the instrument she played. After we played a song together and started conversing, she raved about her passion for playing the saxophone as a young woman. Playing Beverly's preferred music helped her remember parts of her past that was lost to AD. This third resident I worked with at Parker Place Retirement Community had the most observable and significant effects of all three of the residents.

Recommendations

After the completion of my documentary, I have new thoughts and opinions to counsel individuals giving care to people with AD. I have three recommendations to propose for caregivers and caregiving facilities:

1. To install more music speakers in new areas of the facility to allow all residents to experience music.
2. To begin initiating new conversations about supplying a type of music device in each resident's room.
3. For at home caregivers to intentionally facilitate more musical activities.

Making small changes such as these listed above can positively impact the lives of individuals with AD. Playing music in only the main rooms at care centers may not be a

sufficient way of implementing music. Care centers commonly play classical music in different areas of rooms throughout the day. Unfortunately, residents who are hard of hearing may not hear the music player on the other side of the room. The first resident I worked with was hard of hearing and could not hear music unless it was played at a close distance. To address this problem, I recommend increasing the amount of music played in different areas of the facility. Installing more speakers would allow residents to hear music in the hallways and recreation rooms both of which residents are commonly gathering. This is one option that would increase the amount of music played in their living centers

Secondly, I recommend nursing homes and retirement communities start having more conversations about the possibility of obtaining cost efficient music players in each of the resident's personal rooms. Residents would benefit from using an easy to facilitate music device in their own room. After visiting Thalman Square Memory Care Unit and Parker Place Retirement Community, I noticed residents spend a moderate amount of time in their individual rooms. Residents who do not wish to leave their rooms cannot engage in therapeutic music interventions. This problem would be addressed if nursing homes and retirement communities offered an alternative way for residents to listen to music in their own rooms.

For family caregivers who may be having difficulty connecting with loved ones, I recommend playing or singing musical tunes from their late teens and early twenties. Often times, caregivers are depressed about the declining health of their loved one. Caregivers are saddened when the personality of their mother, father, grandparent, or friend is almost unrecognizable; instead, they may see a person overtaken by AD. Caregivers who implement more musical activities may see glimpses of the personality and cognition of the person they

remember. Music can help individuals with AD reconnect parts of their identity, which may have been lost to the disease's progression.

Conclusion: Personal Value of Documentary

MT and music being used therapeutically undeniably enhances the lives of people with AD for a short time. Viewers of this documentary may learn valuable insights from professionals working with people who have AD. MT is a nonpharmacologic treatment with the capacity to regulate emotions, increase social behaviors, and encourage self-expression in those with AD (Vink et al. 2012). Music is a cost friendly and easy to facilitate health intervention for the rising number of individuals with AD. Projections say that by 2050, AD will impact over 60 million lives if no medical advances succeed (Gavin, 2017). Implementing music interventions has the capacity to help the current 35 million people worldwide affected by AD and bring hope to their caregivers (Gavin, 2017).

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