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# The Effects And Comparisons Of Receptive Live Music Listening And Expressive Music Making On Mood With Elderly Adults In A Congregate Residential Setting

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THE EFFECTS AND COMPARISONS OF RECEPTIVE LIVE MUSIC LISTENING  
AND EXPRESSIVE MUSIC MAKING ON MOOD WITH ELDERLY  
ADULTS IN A CONGREGATE RESIDENTIAL SETTING

Rory K. Bolton

64 Pages

It is important to consider mood and its effect on elderly persons as many older adults will experience symptoms of depression. In prior studies, research indicated that preferred music listening and expressive music making can positively change mood in older adults. The purpose of this research study was to investigate the differences between receptive music listening and expressive music making (presented as a facilitated group music therapy session) and their effect on participants' mood. The researcher hypothesized that 1) there would be a significant difference for pre and posttest standardized mood assessment (PANAS) scores between the receptive music listening and expressive music making groups in comparison with the control and that 2) the expressive music making treatment would elicit the greatest positive affect change. In this study, 23 participants from four different assisted living facilities were asked to attend three different treatment conditions on separate dates. Using the PANAS questionnaire, participants ranked their mood in both a pre and posttest. At the conclusion of receiving all three treatments, the participants were given three qualitative questions

about their exposure to music, the role of music in their lives, and about the study in general. A 3 (Treatment Groups: Expressive Music Making, Receptive Music Listening, vs. Control Group) x 2 (Time of Test: Pretest vs. Posttest) x 2 (Affect: Positive Affect vs. Negative Affect) repeated-measures ANOVA test with a within subject's factor concluded that positive affect generally increased between pre and posttest with all participants and negative affect was not affected. There was no significant difference between the receptive music listening and the expressive music making conditions; however, positive affect was slightly greater with both music conditions in comparison to the control treatment. The qualitative data suggested that many participants viewed the music treatments to be a positive and enriching experience. There were several limiting factors in this study including a low and convenient sample size. Although it seems that music could be a valuable tool for improving mood in elderly persons, further research is needed to determine the specific differences between the effects of music listening versus expressive music making on mood.

**KEYWORDS:** Receptive Music, Expressive Music, Mood Assessment, Elderly, Elderly Adults, Music Making, Music Performance, Music Listening, Music Therapy, PANAS, Quality of Life

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AND EXPRESSIVE MUSIC MAKING ON MOOD WITH ELDERLY  
ADULTS IN A CONGREGATE RESIDENTIAL SETTING

RORY K. BOLTON

A Thesis Submitted in Partial  
Fulfillment of the Requirements  
for the Degree of

MASTER OF MUSIC

School of Music

ILLINOIS STATE UNIVERSITY

2016

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THE EFFECTS AND COMPARISONS OF RECEPTIVE LIVE MUSIC LISTENING  
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## ACKNOWLEDGMENTS

I would like to personally thank the wonderful efforts of my committee for their constant feedback on my progress throughout this journey. I attribute the success of this thesis and much of my academia to their energies, enthusiasm, and motivation which has aided in my true academic and professional achievements. To my two professors and mentors in music therapy, Drs. Andrea Crimmins and Cindy Ropp: you have opened me up to a new field in which my passions for music and healing can thrive-a fusion of two of my strongest values in life. Thank you for always challenging my skills in the classroom and in practicum and for helping me set and attain higher standards for my professional work. To Dr. Christopher Wellin: thank you for your wisdom and expertise in sociology and for helping me examine this study from an alternative perspective which has allowed me to incorporate a more subjective narrative and sociological viewpoint. It is my hope that this will spark some interests of those in the field and will serve as a valuable contribution.

To the facilities and participants that volunteered their sites and time helping make this a successful research study, I would like to thank you as well. Your cooperation, assistance, and coordination with the residents was most appreciated and made the data collection a much less stressful process.

To my friend and statistician, John Hogue, thank you for your patience and willingness to wrestle with my data and relate them to the clinical field of music therapy.

Your expertise and command of the subject matter did not go unnoticed and once again was greatly appreciated.

I would finally like to thank the continued support I have received from my closest family, friends, and loved ones. Your encouragement has helped me persevere through some of the hardest struggles along this crazy and ambitious pursuit of mine and has served as a great inspiration to me as I go forth with this professional aspiration.

R. K. B.



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## CHAPTER I

### INTRODUCTION

This study examined the effects and comparisons of receptive music listening and expressive music making as it relates to the domain of mood for elderly individuals. The quantitative aspect of the study measured mood responses using the Positive and Negative Affect Schedule (PANAS) questionnaire in the form of a pre and posttest. Qualitative open-ended questions were distributed to participants both before the study and after receiving all three treatment conditions (Appendix F). Generalizations were then made from this data and the participants' responses as it related to music's overall effect on the participants' mood.

The participants for this study were 23 elderly<sup>1</sup> individuals within the community gathered from four various assisted living facilities. The facilities' staff members selected the participants with the hopes that they would be able to respond to the questionnaires by themselves without the assistance of staff members.

“Receptive music listening” in this study was defined as: population and age-appropriate music preferred by the participants with limited to no interaction from the facilitator. The facilitator was viewed as a guest performer or entertainer at the facilities. “Expressive music making” was defined as a group music therapy session for older adults using only therapeutic interventions that resulted in active music making and/or playing.

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<sup>1</sup> For the purpose of this study, *elderly* is used to describe a diverse group of older people not defined by any cognitive illness or impairment but who rather are well, cognizant, and in higher mental capacity.

Each facility received all forms of the music treatments as well as the control non-music treatment. The participants' mood was measured using a Likert scale on the PANAS questionnaire consisting of 20 positive and negative affects administered both pre and posttest.

### **Research Hypotheses and Questions**

The researcher focused on two hypotheses and two research questions in the study. The hypotheses were as follows:

1. Interacting with music (either receptive listening to a performance or expressive music making through music therapy) will have stronger increases in positive affect than playing nonmusical games.
2. The expressive music making music therapy treatment will elicit the greatest positive affect change compared to listening to a receptive music performance or playing nonmusical games.

Null: There will be no relationship between either the receptive music listening, expressive music making, or control group as it relates to mood with well-elderly persons.

The research questions were as follows:

1. Is there a significant difference between pre and post study scores using the PANAS test?
2. Is there a significant difference between receptive music listening and expressive music making with elderly individuals?

The significance of this study compared the effects of the two forms of music listening and music making with respect to elderly individuals' mood. Music can benefit this population in various domains including improved memory and cognitive retention, strengthened emotional support for those experiencing depression or suicidal ideations (music as a preventive measure), reduction of stress and anxiety, group cohesion through participatory singing, and general enhancement of well-being. Although many of these areas may be treated with prescribed medication, music may serve as an alternative replacement and may provide orientation and structure to the participant's lifestyle by enhancing his or her mood.



CHAPTER II  
REVIEW OF RELATED LITERATURE  
**Quality of Life in Older Adults**

The proportion of today's population of what is considered the "baby boom" generation is anticipated to grow in the years to come, already having reached over 13% of the population (Coffman, 2002) and expected to double by the year 2071 (Creech, Hallam, McQueen, & Varvarigou, 2013). These facts illustrate the importance of care and attention for this population as well as older adults ahead of the baby boomers. Numerous studies have examined the importance music plays not just in the younger years but also well into elderly ages and how this affects multiple facets including but not limited to mood, cognition, memory, socialization, and quality of life (Bailey, 2002; Bruhn, 2002; Coffman, 2002; Creech et al., 2013). The term *quality of life* (QoL) is often associated with the elderly population and interchangeable with phrases such as "sense of purpose", "life satisfaction", and "well-being" (Coffman, 2002). QoL is often influenced by both environmental and personal factors of the individual and may be improved through self-determination and personal goals in life (Solé, 2010).

There are several misconceptions that once having reached a certain age in life, individuals are not capable of continuing to learn and grow (similar to the phrase "you can't teach an old dog new tricks"). Quite contrary to this notion, as Bruhn (2002)

retorts, research is developing around the idea that music is one of the primary focuses for maintaining and improving QoL in older adults. This statement is not based just on the individual's music ability but one's interest, preferences, and response to music. Coffman (2002) adds that common misconceptions display the elderly with an unwillingness to learn new skills and crafts, the tendency to choose passive activities versus active activities and, in general, an overall decline in their lifestyle post retirement. In contrast to these misgivings, the aging process should be viewed as an opportunity to continue life skills, develop new interests, actively engage the mind, and expand upon social interactions within the community.

A significant part of the aging process is emphasis on QoL. Music's potential is often observed to positively enhance an individual's motor skills, memory, and provide a means of expression when verbal expression may not be possible (Bailey, 2002; Bruhn, 2002). Some research suggests that older individuals emit and experience positive emotions as well as an increase in relaxation through listening to music (Gabrielsson, 2002) while other studies display music's capacity to serve as a distraction from unpleasant life experiences (Cutshall, Fenske, Kelly, Phillips, Sundt, & Bauer, 2007). Music listening is found to be an integral part of older adults' daily routine amidst other everyday activities and illustrates direct correlations to positive psychological well-being (Laukka, 2007). Active playing of music within the limitations of the individual may also contribute to an enhanced QoL assisting in mood regulation, and strengthening one's personal identity. Laukka (2007) suggests that music is seen to be the firm foundation of many older adults' identities and is vital to an individual's sense of purpose.

## **Maintaining Mood**

It is natural for one to be moved by music and caught up in the emotional aspect of the piece. The form or style of the music does not necessarily predict the affective response that is to be expressed by the listener. Some music, although unintentional, places the listeners in a certain emotional state. In the case of an elderly person, however, some individuals may not be able to recognize the intended emotion. Laukka and Juslin's (2007) study revealed that age-related differences in emotion recognition were apparent with older adults being less accurate than the younger participants. Possible causes included patterns associated with emotions and acoustic cues. An additional cause could be elderly participants displaying age-related hearing problems varying between recognizable emotions. In other instances, an intentional happy mood song may evoke a sad mood in some individuals, as Schubert (2007) reports. These findings support the importance of continued research on aging and emotion as it may vary between individuals.

In some instances, a song may not necessarily uplift someone and bring about a positive mood; however, the decreasing of negative moods is viewed as being equally important, especially in the case with elderly individuals. Suzuki's (1998) study discovered that participants' negative moods significantly decreased after participating in music therapy sessions and fewer distressing memories were recalled following music treatment. Laukka and Juslin (2007) concluded that older adults tend to be less motivated to attend to negative stimuli in general and that, in some cases, the music serves as the promoter of positive images and memories. Carstensen (1992) supports this statement with a study which concluded older adults are more aware of time, as it is a limiting

factor for them and they therefore seek to inspire within through positive interactions and motivations in life. This was apparent through positive social interactions and revealing the pleasant situations out of dissonant circumstances. Studies such as these are indicative of music's vital role in alleviating negative moods and memories in elderly individuals. Those with episodes of depression were seen to improve in their overall mood due to the music therapy sessions. Regardless of the elderly individual's impairment, the medium of music is seen as a meaningful treatment approach. Interestingly enough, even patients with significant brain damage focused in the auditory cortex region were still able to distinguish happy or sad music by using the musical attributes of tempo and mode in a study by Peretz, Blood, Penhune, and Zatorre (2001). This could be explained by older adults displaying better emotion regulation and still being able to process the emotional information more fully, despite impairment (Parks, 2013).

Mood is not affected just by listening to music but it can also be enhanced via the use of facilitator. One benefit to facilitating a music therapy session, as Thaut (1989b) suggests, is that it can take on the role of affect modification, which has the potential to lead to positive changes in the person's cognition. Despite the increasing age and decreasing functionality of the individual, theoretical models are indicative of a strong correlation between these two variables. By better understanding the relationship between perception of emotion and experience of emotion, researchers have a greater chance of applying music as a changing agent for participant's behavior (Schubert, 2007). Schubert's study concluded that the magnitude of emotion perceived in music was greater than or equal to the magnitude of emotion felt by the listener. In studies such as these, it

is important to utilize a variety of emotions in the selected music so as not to largely favor one intended mood over another.

Not only is mood affected by the music, an individual's body is physiologically altered as well (Harrer & Harrer, 1980; Thaut, 1989b). Autonomic changes such as change in blood pressure, pulse rate, respiratory rate, skin reflexes and responses, and other physiological responses are all correlated with the experience of music and mood alterations (Harrer & Harrer, 1980). The two researchers noted that individuals with a musical background showed a heightened response in many of these areas simply from the aesthetics of the music. For elderly patients undergoing a physical rehabilitation program, music serves as a method to alter the perceived level of exertion by decreasing the amount the time spent exercising individual areas and raising one's mood levels, perceiving them as more enjoyable and successful (MacNay, 1995). With these improvements, the patient may be observed regularly adhering to the suggested exercise schedule even after successful completing the rehabilitation program due to the positive response elicited from the music.

### **Music for Depression and Anxiety**

Although this study focuses on elderly individuals, the aging process does not cease due to one's cognitive state. Many older adults are often trying to cope with significant changes in their body (mentally and physically) and adapt to the present understanding of a continual decline in their various abilities and skills (Mohammadi, 2011). These changes may lead to depressive, emotionally vulnerable states for the individual. A depressed individual may often feel trapped, especially one who has experienced severe life trauma. If the individual has more of a sense of control, they may

be prone to becoming more resilient (Dawn Carr, phone interview, 2015). Depression may often be overlooked in older adults or misattributed to neurological illnesses common to the population (Rovner et al., 1991). Too often the answer in many people's minds for relieving someone with depression is the pharmacological intervention. Although effective in many respects, the medicines may have long response times and numerous side effects. One intervention that may be disregarded and viewed as not being "up to par" with other treatments, yet is still quite efficacious is music.

Not only does music elicit a psychological response in individuals, it may additionally alter one's mood and lead to improved health outcomes (Murrock & Higgins, 2009). The literature further contributes that the altered emotional state of the listener is achieved through appropriately selected music based on the individual's preferences. Upon altering the emotional state, symptoms of depression are likely to be alleviated and decreased as music in a therapeutic context provides a stimulus for deep body relaxation, positive imagery and mood enhancement, clear thinking, and a pleasant and possibly reinforcing event (Hanser, 1990). The subjects' results empirically affirm the high potential for music therapy as a stress-reduction strategy and the potential of it being a low-cost treatment option that is accessible to many elderly individuals in their respective homes and facilities.

In one study, just after five days of exposure to the music treatment, participants were already displaying significant decreases in depressive symptoms (Ashida, 2000). The technique employed in this particular instance was reminiscence focused music therapy-having the participants reminisce through the use of familiar songs within a group setting. Regardless of the technique utilized, it is important to provide any

individual or group of individuals with a safe environment in which they can share memories, feelings, and express themselves through music.

Live music has been seen to reduce depressive symptoms and improve quality of life where participants have responded with higher levels of feeling of belonging and enhancements in self-esteem (Cooke, Moyle, Shum, Harrison, & Murfield, 2010). The principle of live music versus recorded music is one of the hallmarks of music therapy as it allows facilitation between the therapist and patient(s) and growth in reduction of negative symptoms. The research suggests that all types of music can be used as music material-the weight of the effect from the music is entirely dependent on the preferences of the listener (Murrock & Higgins, 2009). Music can be used to enhance the energy of the individual as well as a medium for deep relaxation through slower, repetitious music (Creech et al., 2013). In the case of older adults with neurodegenerative diseases in assisted care facilities, music was seen to improve well-being and alleviate symptoms of agitation, anxiety, and depression (Myskja, 2005). In another study by Williams and Dorrow (1983), one depressed elderly patient expressed fewer complaints while listening to music in comparison with the non-music condition. Improvements in depression-like symptoms, reduction of distress and an elevation in self-esteem and mood can also be observed (Creech et al., 2013). The positive reinforcement from the music can be repeatedly achieved over longer sessions of music listening. Studies have illustrated that elderly individuals tend to engage in activities, such as music listening, that require considerably less exerted physical energy but may also provide an outlet for personal expression and introspection into the participant's personal life (Carstensen, 1992; Hanser, 1990).

A common comorbid factor to depression is anxiety. Several studies link these two domains with a close association—with one typically comes the other (Mohammadi, 2011; Rahman, 2006) as seen in the research which is indicative of the high strength of this correlation (Gagnon, Flint, Naglie, & Devins, 2005). Chan (2009) and colleagues discovered music's soothing effect on stress-induced physiological and psychological responses of their participants. Those given the music as a relaxation intervention displayed significantly greater reductions of both depression and anxiety levels. This study, as well as others, illustrates the positive effects of *preferred* music listening, regardless of diagnosis in the elderly participants. Whether residing in an assisted living facility or their private home, elderly individuals demonstrate a higher prevalence of anxiety and depression which may run them a higher risk of relapse of previous depressive stages in their life (Rahman, 2006). Music can be used in the case of older adults with anxiety as a therapeutic medium that is structured yet flexible and provides an aesthetic experience for the listener (Clair, 1996). The flexibility of the medium allows for easy transfer from therapist to nursing staff and can easily be tailored to fit the needs of the clients and is known as applying the iso-principle (Chan et al., 2009). If anxiety and depression are present in the individual and severe enough, suicidal ideation may be a result and appear, cognitively speaking, as a feasible resolution to the elderly person.

### **Use of Music as a Preventive Medicine**

Studies illustrate that major bouts of depression and anxiety may lead to more serious consequences beyond just loss of functioning (Dunkle & Norgard, 1992). According to the Centers for Disease Control and Prevention (2012), suicide was ranked as the tenth leading cause of death for all ages in 2010—those highest rates being attributed



to males aged 75 and older. Jahn, Cukrowicz, Linton, and Prabhu (2011) attribute this to the population showing a greater vulnerability to illnesses that are associated with increasing age. Just as the growth of the elderly population is of high concern in the years to come (Coffman, 2002), suicidal ideation among the elderly is of equal importance (Iliceto, Fino, Sabatello, & Candilera, 2014). In their study, the researchers (Iliceto et al.) sought to analyze and investigate relations among the dimensions of personality and suicide risk in both young and older adults. The participants of the study were assessed for behaviors and thoughts related to depression and hopelessness. Both groups yielded a similar association pattern between suicidal ideation and personality. Those elderly participants with high ratings in neuroticism, depression, and hopelessness were highly considered for further assessment and intervention. Another targeted indicator of suicidal ideation is perceived burdensomeness (Jahn et al., 2011). The sense of burden on others or on self can at times singlehandedly predict suicidal ideation, as was observed in the case of terminally ill cancer patients (Wilson, Curran, & McPherson, 2005).

Not only is the elderly population at high risk for suicide, the general maintenance of health and compliance to regular physical activity is crucial (Schutzer & Graves, 2004). The study presented music paired with exercise sessions in the forms of vocal music, instrumental music, and no music with the exercise. Findings revealed that the older adults generally adhered more to the exercise when it was paired with the instrumental music condition. This study contributes to the incorporation of music into exercise programs for older adults which may serve to facilitate higher levels of participation and lessen the experiences of discomfort by preventing physical stressors

that are associated with specific diseases, disabilities, and general decline of strength due to age (Schutzer & Graves, 2004).

Gene Cohen and colleagues (2006) examined the impact of cultural participatory art programs on the domains of physical and mental health as well as social functioning in the lives of older adults aged 65 and older. The art programs were shown to have an overall positive report for participant's health and number of activities in which they engaged. In addition, a reduction of doctor visits, fewer pain medication uses, and diminished feelings of loneliness and general morale was observed. Studies such as this illustrate the arts (in this case, a choral singing group) as having a significant impact on reducing risk factors that are found to be a driving force for those in need of long-term care facilities (Cohen, Perlstein, Chapline, Kelly, Firth, & Simmens, 2006).

Through outlets such as group singing and group music therapy, music serves as an expressive tool for those with severe depression and a coping strategy for dealing with its adverse effects by engaging the individual and continuing to promote quality of life. Music can mask the pain associated with physical exercise, as in the case of a rehabilitative program, and can be paired with the exercise to stimulate and motivate the patient into maintaining a consistent routine of exercise that promotes well-being and positive outcomes.

### **Background Music**

Music has the ability to evoke liveliness, allowing individuals to open themselves up to their surroundings and environment. One study indicated an enhancement of positive emotions and moods in the participants as a result of background music and singing (Gotell, Brown, & Ekman, n.d.) In this example, the music served as an outlet

for vocal expression of positive emotions as well as reduction of the levels of aggression from the patients. In a different experience, background music did not appear to have a positive or a negative reaction from the participants who displayed lower levels of stimulation. This is commonly seen in the case of background “sleeping” music (Harrer & Harrer, 1980).

Background music is often present with residents of nursing care facilities. It should be noted that this definition of background music is music playing while another activity is taking place. The present study will utilize receptive music listening where the participants will only be focused on the music being played and not another activity. In a study by Otto, Cochran, and Johnson (1999), residents experienced four sessions of silence, preferred background, and nonpreferred background music. The subjects participated in a series of 12 weekly sessions where the experimental interventions were randomized. The facilitating therapist was observed at verbally prompting more conversations during preferred music which lessened the participants’ responses and participation. The researchers concluded that background music may influence a therapist’s behavior which coincidentally may influence the participant’s responses (Otto et al., 1999). The results of such a study revealed that engagement, done by either the therapist or the listener, is significantly attributed to preferred music.

Where studies have illustrated the efficacy of background music is through applications in guided imagery (GIM) and relaxation (Bonny, 1989; Gregory, 2002). Clients of GIM have been observed to improve self-esteem, enhance feeling awareness, gain insight into personal problems, increase energy, improve self-discovery, and enhance spiritual growth and independence (Belland, 1994).

## **Group Music Therapy**

Despite an elderly individual's impairment(s), group music therapy sessions are an accessible outlet and are suggestive of the participants enjoying themselves in singing and playing of various musical instruments as well as general session participation (Takahashi & Matsushita, 2006). As was evidenced by this study, the researchers discovered that even elderly with moderate to severe cases of dementia were still able to participate and enjoy the musical experience. A later discovery was that the musical concert during part of the therapy sessions was effective at preventing both cardiac and cerebral diseases.

Another study emphasizing group music therapy's impact on depression and cognition in elderly patients with dementia concluded that improvements in the participants' episodes of depression were immediate and lasted throughout the duration of the therapy sessions (Chu, Yang, Lin, Ou, Lee, O'Brien, & Chou, 2014). The study revealed that the music intervention in a group setting was both noninvasive and appeared to reduce symptoms of depression in the elderly persons. Deterioration of cognitive functions was delayed and some functions, such as short-term recall, were seen to improve over the course of twelve sessions and then again one month after sessions had concluded. Although the present study concerns elderly individuals, the effects of group music therapy sessions with either dementia or non-dementia related patients are transferrable and serve as a viable contribution to the already existing literature.

Group therapy sessions have not only been seen at enhancing those individual's mood with depression, but sustained high levels of participation can also be observed throughout intervention programs (Solé, Mercadal-Brotons, Galati, & DeCastro, 2014).

As the researchers point out, pharmacological treatment is important in the reduction of the effects of dementia but it is not sufficient. Those individuals who do not participate in activities for long, extended periods of time can drastically worsen their symptoms. Active participation and involvement through a variety of activities, such as music therapy sessions, with other individuals of similar statuses has the potential to embrace feelings of positive reinforcement and reduce negative feelings and affective states (Solé et al., 2014). Active participation in group music therapy with elderly persons has been seen to lead to positive affirmation of well-being, increased time spent in more meaningful activities, and an increase in positive social interactions. In one study, clients with dementia were recorded as being able to work through negative feelings and commenced taking pride in their accomplishments (Ahonen-Eerikäinen, 2007). Yet another study was indicative of those elderly individuals attending to a positive music experience (The Silver Song Club Project) who expressed remarks in the music making them feel better and having a positive effect on their general well-being (Bungay, Clift, & Skingley, 2010). Forming such an organization as The Silver Song Club led to a wide array of previous musical experience-those who were a part of music programs and ensembles through school, church, and community reported higher levels of anticipation and enjoyment from the club. Previous musical experience was significantly correlated with level of anticipation and excitement of music making (Bungay et al., 2010). Ultimately, all of these inherently affect a general improvement in the person's quality of life (Solé, 2010) and support the evidence behind conducting the present study.

## **Facilitated Expressive Music Making**

Group music therapy is often facilitated by expressive music making on the part of both the facilitator and clients. This study seeks to note differences in both this form as well as receptive music listening. In addition, it will focus only on therapeutic interventions that employ active music making and expressing (group instrument playing and group singing primarily). Some of the advantages to this form of musical presentation include: a heightened awareness of others and social interaction, direct engagement with musical interventions, and optimal arousal in both the physiological and psychological states by the facilitator manipulating the musical and clinical elements for the group (Clair, 2014). In a study of older male and female adults aged 65 to 90 years old, researchers compared live, instrumental music, vocal music, and no music during 14 physical therapy rehabilitation exercises (Johnson, Otto, & Clair, 2001). The investigators noted that subjects stopped exercising during most songs and sang along to the vocal songs. It was found that live music created a pleasant experience and was preferred to no music at all. If exercises emphasizing fine and gross motor skills can be applied to a live, facilitated music therapy session, it is likely to observe an increase in enjoyment, motivation, and engagement from the participants. In addition, the founder and executive director of the Rebecca Center for Music Therapy in New York, John Carpenete, MT-BC, claims that, "...By listening to live music and being involved in live music-making experiences, a greater quality of life is possible" (Schaeffer, 2016, "Music Therapy in Dementia Treatment," para. 3).

## **Hypotheses and Questions**

Realizing that there is ample study on various forms of music and its effects for a range of ages, the current study focuses on music with respects to the elderly in the primary domain area of mood and seeks to make general inferences on quality of life using qualitative data. In hopes to contribute to the current existing research, the purpose of this study is to develop further insight into the effects of music listening and music making in elderly American adults by varying the presentation of the music medium: either using receptive music listening in a general performance setting or through a facilitated group music therapy session using expressive music making.

The study utilized three intervention groups in varying the musical presentation through means of a live performance (receptive music listening), a live, facilitated group music therapy session (expressive music making), and a control group receiving none of the musical treatments to serve as a baseline measurement. Hays and Minichiello (2005) observed a positive social and emotional response from the participants in their study in the areas of listening to music and active music-making. Carr (2006), in an effort to seek how older adults attribute their meaning in life to participation with instrumental music, revealed that live music was associated with positive QoL and that music was perceived to have an emotionally therapeutic function, among other finds. In this study, the researcher sought to answer the following questions: (a) is there a significant difference between pre and post study scores on the PANAS questionnaire? and (b) is there a significant difference between receptive music listening and expressive music making with elderly individuals? The researcher predicted the following hypotheses: (a) interacting with music (either receptive listening to a performance or expressive music

making through music therapy) will have stronger increases in positive affect than playing nonmusical games and (b) the expressive music making music therapy treatment will elicit the greatest positive affect change compared to listening to a receptive music performance or playing nonmusical games.



CHAPTER III  
METHODOLOGY

**Participants**

The study utilized cognitively intact, elderly participants from four various long-term residential care facilities. A total of 23 elderly participants was obtained (N=23). Two participants (n=2) were from Facility A, five participants (n=5) were from Facility B, six participants (n=6) were from Facility C, and ten participants (n=10) were from Facility D. The study employed a convenience sample of elderly participants who all volunteered for the experimental study and were recruited by the facility staff. The minimum age of the elderly participants to be eligible for the study was 65 years old.

**Materials**

Demographic questions related to age, gender, ethnicity, youth environment and musical experience and exposure were included at the time of the first intervention. Participants were recruited by the facility staff that had consistent interaction with the residents and participants outside of this study.

Pre and posttest measurements of mood changes were administered to each participant using the scientifically validated Positive and Negative Affect Schedule (PANAS; Watson, Clark, & Tellegan, 1988) test. The PANAS test is a brief, cross-culturally reliable test consisting of 20 items (see Appendix E).

Each item is either a positive or negative affect of mood that is measured at the present moment or the mood to which the participant has felt over the course of the past week. During the study, each participant circled which option he or she chose when taking the pretest (as the posttest measured the mood of the participants at the present moment after the treatment) and rated the affects on a scale 1 through 5 where 1 was *very slightly or not at all* and 5 was *extremely*. The positive affects in the PANAS test included: Interested, Excited, Strong, Enthusiastic, Proud, Alert, Inspired, Determined, Attentive, and Active. The negative affects included: Distressed, Upset, Guilty, Scared, Hostile, Irritable, Ashamed, Nervous, Jittery, and Afraid. Previously validated momentary mean scores for positive affects were  $M = 29.7$  ( $SD = 7.9$ ) and weekly mean scores were  $M = 33.3$  ( $SD = 7.2$ ). Momentary mean scores for negative affects were  $M = 14.8$  ( $SD = 5.4$ ) and weekly mean scores were  $M = 17.4$  ( $SD = 6.2$ ). The PANAS tests were administered as a pre and posttest assessment at the time of each of the three conditions. In addition, the researcher administered a debriefing questionnaire for the participants following the third and final intervention allowing them to reflect on their experience in the study and how music has played a role in their lives. The hopes of these follow up questions were to obtain a subjective and narrative perspective from the participants.

The researcher predetermined the treatment at each of the four facilities using a random generator and numbered the interventions accordingly: (1) receptive music listening, (2) expressive music making, and (3) control group receiving no musical treatment. During the time of the second and third interventions, participants were read a continuing script, reminding them of their participation in the study as well the ability to withdraw at any time. This script can be found in Appendix G.

## **Interventions**

### **Receptive Music Listening Intervention**

The researcher selected the following songs to be included in the receptive music listening intervention: *Beyond the Sea* (Jack Lawrence), *My Funny Valentine* (Rodgers and Hart), *Dream a Little Dream of Me* (Andre, Schwandt, and Kahn), *Folsom Prison Blues* (Johnny Cash), *La Bamba* (Ritchie Valens), *Runaround Sue* (Dion), *Moon River* (Henry Mancini), *You'll Never Walk Alone* (Rodgers & Hammerstein), *On the Sunny Side of the Street* (McHugh and Fields), and *Sentimental Journey* (Brown, Homer, and Green).

A program order outline of the intervention can be found in Appendix C. The intervention was performed using a combination of piano and guitar and was treated as a musical concert for the participants where participants were asked to listen to the music but not encouraged to sing along. The researcher, as the performer, did choose to sing during the performance so as to keep the singing variable constant through both music interventions. There was little to no interaction between the performer and audience other than simple remarks introducing the next piece to be performed. Music selections for replicated studies are not limited to these selected songs but were based on convenience as they had been found to be entertaining for previous elderly residential music concerts given by the researcher.

### **Expressive Music Making Intervention**

The following songs were selected as part of the expressive music making intervention which was structured in the style of a group music therapy session: *Hey Good Lookin'* (Hank Williams), *In the Good Ole Summertime* (trad. sing along sung by Blanch Ring), *Fascination* (by F.D. Marchetti and sung by Nat King Cole), *Darktown*

*Strutter's Ball* (trad. song by Shelton Brooks), *Battle Hymn of the Republic* (trad. patriotic song), *As Time Goes By* (trad. standard by Herman Hupfeld), *Oh my Darling Clementine* (trad. sing along song by Percy Montrose), *Down By the Riverside* (trad. spiritual song), *It Had to Be You* (trad. standard by Jones and Kahn), and *Goodnight Irene* (American folk song sung by Nat King Cole). This intervention utilized common music therapy instruments and tools including shakers, guitar, various percussion instruments, and lyric sheets. A detailed music therapy session plan of these song applications can be found in Appendix D. The songs were selected at the discretion of the researcher as they were familiar and were known to be effective at eliciting participation and focusing attention from previous practicum experiences with older adults. Music selections for replicated studies of this research in the future are not limited to these selected works but were again based on convenience for the purpose of this study.

### **Control Group**

A non-musical treatment was utilized as a control variable. An activity found to be a part of the residents' typical routine schedule that did not incorporate any musical element was deemed eligible. It should be noted that although the non-musical activity was not consistent between facilities, the activity selection was based on a convenience setting and availability for the participants at each of the facilities.

### **Setting**

The study took place over a series of four long-term care residential facilities which consented to all three intervention treatments being conducted at their location as part of the study. The interventions, PANAS questionnaire, demographic survey questionnaire, and follow up questions related to the three interventions were

administered at each of the facility's activity rooms or multi-purpose rooms where a piano was located for the receptive music listening intervention and ample space was available for the expressive music making intervention. Tables and chairs were appropriately arranged for both musical presentations.

### **Research Design**

This experimental study was a within subjects' design where each group of participants at each facility received each of the three possible interventions in the study. The study utilized four various long-term care facilities. The independent variables of the experiment were the three interventions utilized (as described above) and the dependent variable was (a) the change in mood which was conferred using the pre/posttest PANAS questionnaires and (b) participants' responses directly related to the music interventions. The three interventions for this study were a (1) live, receptive music listening experience of the music selections, (2) live, expressive music making of the music selections in a group music therapy session, and (3) control group that received no musical treatment but was replaced with the researcher using a pre-existing activity of the residential facilities schedule for the participants, which happened to be group BINGO or card games. The researcher treated each group of participants at each location with all three interventions, which were randomized and predetermined which intervention would be conducted at which facility in advance.

### **Procedure**

The Institutional Review Board at the university, where the research is affiliated, granted the researcher approval for the study. To conduct the experimental study, the researcher needed to be a proficient musician as well as be educated with the skills and

knowledge when facilitating an effective music therapy session with older adults. Each residential care facility was responsible for gathering participants by inviting them to participate and gathering those who were interested at the time of the interventions. The participants at each facility were unaware of which intervention would be conducted at what time during the course of three different gatherings. At each facility, the researcher welcomed the participants to the study, thanked them for their participation, had each participant sign his or her own letter of informed consent (see Appendix A) about the study (explaining that his or her participation was completely voluntary and he or she was able to withdraw from the study at any time) and distributed both the demographic questionnaire (see Appendix B) as well as the pretest PANAS form. The participants were asked to indicate their current mood by ranking the respective affects using a Likert scale. The PANAS scale is measured on a number scale 1 through 5 where 1 is *very slightly or not at all* and 5 is *extremely* (Watson, Clark, & Tellegan, 1988). Next, the researcher performed the treatment for each group of participants. At the conclusion of each group's treatment, the researcher distributed the posttest PANAS (identical to the pretest form) form where the participants were again asked to rate their affects on a scale of 1 to 5. The posttest PANAS measured the participant's moods immediately after treatment. At the conclusion of all three conditions at each facility, participants were asked to fill out a debriefing questionnaire (see Appendix F) that allowed them to reflect on their experience with the study and indicate how music has or has not played a significant role in their lives. No financial compensation was given to any of the participants other than the opportunity to promote a positive listening and therapeutic experience.

## CHAPTER IV

### RESULTS

#### **Participants**

As described in the Methodology, a sample total of 23 participants (five persons between the ages of 60 and 70 years old, four between 70 and 80 years old, eleven between 80 and 90 years old, and three persons over 90 years old) was obtained between four assisted living facilities. All 23 participants were White/Caucasian ethnicity while 39% of the participants were men and 61% were women.

#### **Pre-Experimental Questions**

##### **What Exposure Have You Had to Music in Your Life?**

Two people listed taking lessons as children. Two people listed church. Three people listed concerts. Two people listed learning to play an instrument. Two people listed taking dance classes. Three people listed family members who were musicians. Two people listed taking music classes in school. Two people listed listening. Other responses included the following: a lot, incidental, seminars, discussion groups, correctional psychology, seminary music, lifetime (including up to 3.5 years of music school), music, none, and radio.

### **Have You Had Training in Music in Your Life?**

Eleven participants stated that they had training in music in their lives. Twelve people stated that they did not have training in music in their lives.

### **What Activities During Your Day Do You Find Rewarding?**

Five people specifically listed doing something musical, such as attending concerts, enjoying classical music, and listening to music. Three people listed exercising. Eight people listed reading. Three people listed watching television. Other responses including shopping, golfing, talking to people, sharing, completing puzzles, cooking, going on outings, working on the computer, various, and many-varied.

### **What Are Your Expectations of This Study Featuring a Musical Performance, a Music Therapy Session, and a Non-Musical Activity?**

Seven people expected to enjoy the experience. Two people expected to be entertained. Four people simply stated that they were interested in the experience. Three people expected to learn something from the experience. Two people stated that they had no expectations. Other responses included an introduction to music education, art therapy, help in a study, relaxing, listening, and music therapy.

## **Materials**

### **Cronbach's Alphas**

Cronbach's alpha values for the pretests in positive affect ranged from .74 to .92. Cronbach's alphas for the pretests in negative affect ranged from .22 in the MT condition to .21 in the Control condition and .66 in the Performance condition.

Cronbach's alphas for the posttests in positive affect ranged from .91 to .94. Cronbach's alphas for the posttests in negative affect ranged from .09 in the Performance



condition to .82 and .86 in the MT and Control conditions, respectively. The Cronbach alpha values can be seen in Table 1 below.

Table 1

*Cronbach Alpha Values for Performance, Music Therapy, and Control Interventions with Respect to Pre and Post Positive and Negative Affects*

Intervention	Affect	Cronbach Alpha Value
<u>Performance</u>	PrePositive	.74
	PreNegative	.66
	PostPositive	.91
	PostNegative	.09
<u>Music Therapy</u>	PrePositive	.91
	PreNegative	.22
	PostPositive	.92
	PostNegative	.82
<u>Control</u>	PrePositive	.92
	PreNegative	.21
	PostPositive	.94
	PostNegative	.86

## Results

A 3 (Treatment: Performance, MT, vs. Control) x 2 (Time of Test: Pretests vs Posttest) x 2 (Affect: Positive Affect vs. Negative Affect) repeated-measures ANOVA was run on the data. One participant's data were removed because they were a consistent

outlier in the Negative Affect test scores. Due to the small sample size, alpha was set at .10 for this study.

Three main effects displayed as a result from this study: There was a significant difference among the three treatment conditions, Wilk's  $\Lambda = .79$ ,  $F(2, 20) = 2.62$ ,  $p = .098$ ,  $\eta_p^2 = .21$ . Affect scores were higher in the Expressive Music Making condition than the Control condition ( $p = .043$ ) but not the Receptive Music Listening condition,  $p = .68$ . The Receptive Music Listening condition was significantly higher than the Control condition,  $p = .074$  (see Figure 1 for the means and standard deviations). Positive Affect scores ( $M = 3.40$ ,  $SE = .16$ ) were significantly higher than Negative Affect scores ( $M = 1.09$ ,  $SE = .03$ ), Wilk's  $\Lambda = .09$ ,  $F(1, 21) = 212.62$ ,  $p < .001$ ,  $\eta_p^2 = .91$ . Pretest scores ( $M = 2.18$ ,  $SE = .08$ ) were significantly higher than the posttest scores ( $M = 2.31$ ,  $SE = .09$ ), Wilk's  $\Lambda = .83$ ,  $F(1, 21) = 4.26$ ,  $p = .052$ ,  $\eta_p^2 = .17$ . The  $p$ -values of significance between the interactions are summarized in Table 2 on page 29.

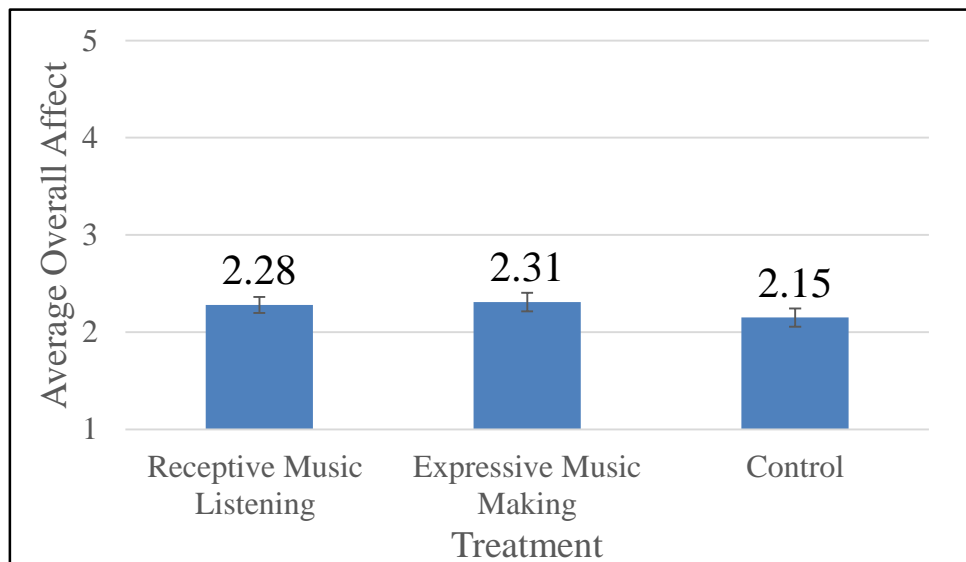


Figure 1. Means and standard deviations between interventions.

Table 2

*Study Interactions and Their Respective Values of Significance*

Interactions	<i>p</i> -value (Significance)
Treatment / Time of Test	.605
Treatment / Affect	.129
Time of Test / Affect	<b>.033</b>
Positive Affect (pre to posttest)	<b>.032</b>
Negative Affect (pre to posttest)	.556
Treatment / Affect / Time of Test	.165

*Note.* Significant values in bold.

The interactions between the treatment and the time of test (Wilk's  $\Lambda = .95$ ,  $F[2, 20] = .52$ ,  $p = .605$ ,  $\eta_p^2 = .05$ ) and between the treatment and the affect (Wilk's  $\Lambda = .82$ ,  $F[2, 20] = 2.27$ ,  $p = .129$ ,  $\eta_p^2 = .18$ ) were not statistically significant. The interaction between the time of test and affect, however, was statistically significant, Wilk's  $\Lambda = .80$ ,  $F(1, 21) = 5.24$ ,  $p = .033$ ,  $\eta_p^2 = .20$ . Positive Affect scores significantly increased from pretest to posttest ( $p = .032$ ), but Negative Affect did not change between the pretest and posttest,  $p = .556$  (see Figure 2 for the means and standard errors). The three-way interaction among the treatment, affect, and time of test was not statistically significant, Wilk's  $\Lambda = .84$ ,  $F(2, 20) = 1.98$ ,  $p = .165$ ,  $\eta_p^2 = .16$ .

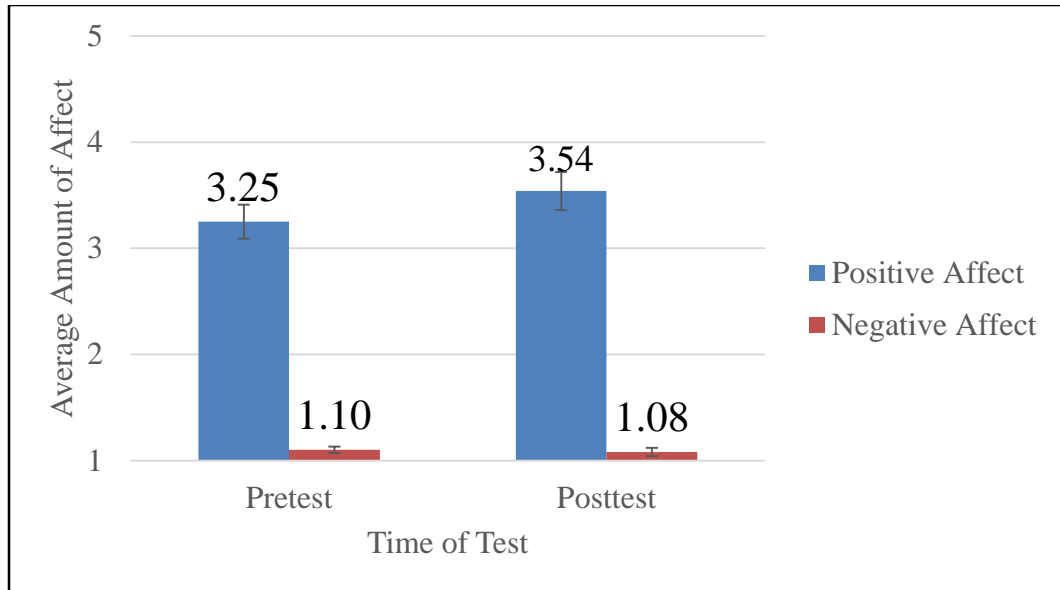


Figure 2. Means and standard errors of positive and negative affects as compared pre and posttest.

### Debriefing Questionnaire

#### **In Your Life, in What Settings or Occasions Have You Been Most Often Exposed to Music?**

Most people (seven participants) stated that they have been exposed to music mostly through the church. School (six participants), the radio (four participants), and at home (four participants) were also common responses. These participants also listed live performances (three participants), singing (two participants), television (two participants), and a lifetime of music (two participants). One person stated each of the following: county fair, camp, the Hit Parade Marching Band, music theatre, piano lessons, music is a huge part of my life, and dance lessons.

#### **What Role or Roles Has Music Played in Your Life?**

Five people responded to this question with how much music has affected them throughout their lives. Their responses are listed in Table 3.

Table 3

*Participants' Responses to Role of Music in Their Lives*

---

Responses
100% of my career as a children's dance studio.
A big large part of it. I have boxes and boxes of music (aka CDs).
A greatly significant role partly because paternal (mostly play by ear and we would all gather around the piano and sing-wonderful memories of my paternal grandmother).
Large role-family musicians!
Very important-music is my soul.

---

Twelve other people responded with how music affects them. Their responses are listed below in Table 4.

Table 4

*Participants' Responses to Music Affecting Them*

---

Responses
A positive role with music forever!
Can be relaxing.
Comfort, joy, great fun.
Enjoyed listening all my life.
Fun in family life...love and marriage.
Given me happiness.
Good time.

*(Table Continues)*

---

Responses

---

Happiness, memories, fun, community singing, increased attention and participation and interest.

Happiness, relaxing.

It has enriched it greatly.

Music lifts my mood, like to play some extent on keyboard.

Personal enjoyment, listening.

---

Finally, five people responded with where they have been exposed to music as summarized below in Table 5.

Table 5

*Participants' Responses to Exposure to Music*

---

Responses

---

Attending school band concerts and football program.

Mother sang hymns daily while working. This music reoccurs in my mind daily.

Piano lessons, personal enjoyment, music listening.

Seeing musicals, movies, and learning works.

Started piano lessons at age seven at Wesleyan & found out how little I really knew. Learned a lot.

---

**To What Extent Were Your Expectations of the Study Fulfilled? If They Were Not, How Were They Different?**

The responses for the participants' expectations of the study being fulfilled varied between the 23 individuals but overall concluded a positive and enriching experience. Their individual responses are listed below in Table 6 below.

Table 6

*Participants' Responses to Expectations of the Study Being Fulfilled*

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Responses
Yes, I love music!
Very much interested as expected-music is a great feature in people's lives.
Very good.
Very fulfilled for all conditions.
Interested and fun.
Good, exciting, memorable, happy.
This was beyond my wildest dreams!
I wasn't sure what to expect.
I had no expectations since I was unaware of what to expect. I enjoyed the sessions more each time.
Very, particularly the first part with music. Bingo was fun and good for my brain.
Very much fulfilled.
Music needs to play a bigger role having been a part of this study.
Very interesting-music can be very important in our lives-we need more.

*(Table Continues)*

---

Responses

---

I wasn't sure what to expect but it was most enjoyable.

I have 2 doctor degrees...I was jolted!

Highly met.

To learn how to listen and learn.

Excellent overall yes.

Having no idea what to expect, I have been pleasantly surprised. It has been fun. I was pleased to have been helpful to such a determined, enthusiastic student.

It has been a great way to spend my Saturday AM. I enjoyed your talent.

Very good.

Did not know what to expect. Enjoyed the last session with music the most.

Didn't know all that was to feature.

---



## CHAPTER V

### DISCUSSION AND CONCLUSIONS

#### **Research Purpose and Results**

The purpose of this study was to develop a further insight on the effects of music as it relates to participants' moods through various forms of music presentation, those being receptive music listening and expressive music making. The researcher predicted that: a) interacting with music (either receptive listening to a performance or expressive music making through music therapy) will have stronger increases in positive affect than playing nonmusical games and b) the expressive music making music therapy treatment will elicit the greatest positive affect change compared to listening to a receptive music performance or playing nonmusical games.

#### **Hypothesis 1**

The results suggest that elderly individuals in assisted-living facilities responded favorably to someone spending time with them. They also suggested that these individuals had stronger overall emotions in music therapy than in nonmusical games. Therefore, it can still be recommended that music therapists interact with these individuals because that time could be more meaningful to them than simply playing games.

## **Hypothesis 2**

The results of this study indicated a slightly stronger participant response to the expressive music making intervention (group music therapy) in comparison with the non-musical control intervention; however, when comparing receptive music listening to expressive music making, participants' responses did not vary significantly. Regardless of the treatment conditions, Positive Affect scores increased from pretest to posttest, but Negative Affect did not appear to change significantly. Regardless of affect or conditions, pretest scores were lower than posttest scores, indicating an observable mood change between all treatment conditions.

## **Research Question 1**

The results did indicate a significant difference for Positive Affect between pre and posttest scores utilizing the PANAS questionnaire. Any change in Negative Affect was negligible for this study; however, future studies and reproductions may show otherwise.

## **Research Question 2**

When comparing the two music treatment conditions of receptive music listening and expressive music making, a similar response was observed with no significant difference between the two. From these observations and findings, the results do not strongly support the researcher's proposed hypotheses nor answer definitively the research questions sought after initially.

## **Limitations**

Several factors served as a limitation for this study, the primary factors being (a) sample size, (b) the cognizant ability of the elderly participants, (c) the participant's

interpretations of the PANAS questionnaire, (d) the assistance provided by the facilities' staff, and (e) the consistency of participants returning for all three condition treatments and lasting the duration of the study from start to finish.

Between the four facilities, the study only utilized 23 participants' therefore the researcher determined each group as a convenience sample. If further research is to be conducted using a similar study, a larger sample size from each of the treatment groups is highly recommended. With such few participants in each group, it was difficult to interpret the study's generalizability and to make such inferences for future research.

Secondly, the cognizant level of the elderly residents at each facility who volunteered for the study displayed a vast range of cognitive abilities. Some participants were able to clearly indicate their responses to the music while others struggled making sense of the study and the PANAS questionnaire. For those residents that had difficulty ranking the moods, the facilities' staff (or the researcher, in the case where additional staff was not readily available for assistance) assisted in reading the moods to the participants and recorded the results as interpreted by the participants. Although the researcher had hoped that each facility would select the elderly residents whom the staff felt would be able to appropriately respond to the questionnaires, this was not always the case, as some facilities selected the residents based on convenience and availability. Additional research would strongly benefit from a method design that would select participants based on a cognitive screening test in order to effectively and independently answer the PANAS questionnaire or other similar questionnaires.

In some cases, participants struggled with accurately identifying and ranking their moods (as was especially noted for the "middle" rankings numbered 2 through 4 on the

PANAS questionnaire). Some residents resorted to an “all or nothing” response which consisted of ranking the respective positive and negative affects at either 1 or 5, which may not have been an accurate representation of their specific feeling at that time, or may have rushed through the responses in an attempt to finish the study sooner. This was certainly not the case for each individual participant, but those that responded in this sort of manner did affect mean scores of positive and negative affects. To prevent this in future studies, it would be useful to explore alternative questionnaires that may not necessarily have a number ranking associated with the mood, but instead a spectrum of synonym words of the moods that are verbally illustrated. An example of this might be the mood happiness where the participants are asked to rank their level of happiness ranging from enthusiastic to exuberant. The researcher may decide to associate a number ranking system with these ranges and not openly disclose this to the participants.

The staff at each of the facilities served as a limiting factor of this study’s results as well. Although the assistance was appreciated to expedite the efficiency of the study (as many participants withdrew from the study after viewing the amount of time it would take to complete the study in its entirety), some staff members were forced to associate a number to the moods based on the participants’ vocal inflections and struggled when interpreting the participants’ responses. This also served then as an interpretation of the participants’ responses and may not have been an accurate representation of the participants’ true feelings. It may prove to be useful to have a team of researchers who assist those residents interpreting the questionnaire in future studies. This would assure that each participant is given the same guidance in answering the questionnaire across the groups which would increase the validity and generalizability of the results.

The final limitation was the consistency of returning participants for all three treatment conditions and the debriefing questionnaire at the conclusion of the study (which was combined into the same meeting as the third and final treatment condition). At some facilities, what started out as a good sample representation slowly dwindled down to a small convenience sample size by the end of the study (each return to the group for the next treatment resulted in a lower number of participants). Although the treatments were conclusive and replicated over each of the facilities (a within subjects' design where all participants received equal treatments), the expected and hopeful sample sizes were not conducive to making significant interpretations and general deductions from the study.

A counterbalancing analysis was not taken into consideration due to the low sample sizes within each facility as well as that a predetermined order of treatment conditions was not proposed to elicit specific results in the researcher's hypothesis. The facilities, due to various constraints in many cases, determined the order of treatments for the participants which still varied between facilities. In future research, the researcher feels that a counterbalancing effect may prove to be effective in determining significance based on the order of treatments.

### **Implications**

The purpose of this study was to observe the effects of mood in elderly persons through varying forms of music presentation. The study was successful in part indicating a general increase of positive affect between both of the music presentations. The study's results do indicate, however, that further research is required to strengthen the validity of the data and obtain more conclusive results—those mostly being obtaining a larger sample

size of participants and possibly accounting for and predetermining counterbalancing effects based on the order of music presentation. Although the results do not lend themselves to significant conclusions, the study continues to contribute to the importance of music in elderly persons' lives. Despite the researcher not reaching the hypothesized outcome of the experiment to a significant and observable degree, the study demonstrated improvement in the participant's Positive Affect and quality of life as the majority of the participants left the study having partook in a positive experience and indicated this directly to the researcher (as evidenced by the qualitative findings previously seen in Table 6). This was especially evident and noted in the expressive music making and receptive music listening treatments.

With music's broader, humanistic meaning and value (not just in a therapeutic context), the benefits to elderly individuals and their respective communities are widespread in avoiding depression, isolation, anxiety, and other both medical and non-medical conditions. This was indicative of this study (as evidenced by the positive remarks towards music in the qualitative portion) working with cognizant well-elders and perhaps may be true even more so for those residents and individuals who struggle with cognitive illnesses, impairments, or challenges of memory loss.

There is then the difference between the individual versus collective and larger social benefits through the introduction of music to this population (which is applicable to both receptive listening and expressive music involvement). Music and other therapeutic interventions not only have the ability to enhance mood and quality of life on an individual experience level, but also a collective, interactional life level especially noted in settings and environments where such interaction may be difficult to achieve. In

this respect, music acts as a vehicle for disseminating a broader, creative discussion paired with personal associations, positive memories which can potentially spur social interaction within an elder community.

The benefits of the music interventions implemented in this study provide significance not only for the specific group of participants emphasized here, but also for the broader, collective community of those in nursing homes or specialty care facilities (including memory care units) designed to support those with a range of dementias. Music can tap into what may be thought of as ‘locked’ areas of the mind and can often take on a specific, ritualistic meaning or role in unlocking those dormant areas and instilling within them life, intent, and a sense of purpose.

### **Future Research**

The results of this study are congruent with Bailey’s (2002) findings, which can be summarized that music does play an important role to seniors and their mood. In this study, the researcher noted participants actively singing along to the music, sometimes requiring little to no verbal prompting, as similar to a study by Johnson, Otto, & Clair (2001). Coffman (2002) also illustrates that elderly participants consider music listening and music making to be an essential element in their QoL. Although general conclusions, such as community based programs indicating an overall higher rating of physical health and fewer rates of fall and injury (Cohen et al., 2006), cannot be deduced from this specific study, the study did indicate a positive correlation with music being a part of the participants’ daily activities and mood enhancement following the music treatment conditions. To extrapolate qualitatively, small in-depth interviews with future participants may provide further insight into the role music has played or continues to

play in their lives and if being present in the moment of the music lends itself well to affecting their mood in both short and long term evaluations. There continues to be a need for further investigation of the role music plays in that of elderly individuals' lives as echoed by Creech, Hallam, McQueen, & Varvarigou (2013). Societies such as the American Society of Aging and Gerontological Society of America may be viewed as possible outlets of continuation for similarly related research emphasizing the therapeutic use and involvement of music in elderly lives and may fit well into a wider array of settings through creative arts for older adults.

Music can serve as a therapeutic means, a stress or anxiety reducer (Mohammadi, 2011), a recreational leisure activity, a positive listening experience (Laukka, 2007), and even has the potential of making elderly individuals more aware of their inner emotions (Hays & Minichiello, 2005). While serving as a means of vocal expression, such as in group singing, positive emotions have the potential to increase an individual's mood while aggressive levels and negative emotions have the potential to reduce (Gotell, Brown, & Ekman, n.d.). Music therapy continues to be a growing field of study and research, which assists in advocating the demand to maintain music in the elderly's lives. As it has been reiterated in this experimental study, live music presentations may lead to a heightened awareness of others, an increase in social interaction, and optimal arousal in both psychological and physiological states within a group setting (Clair, 2014). Music is not passive, but rather it plays a very active role in enhancing cognitive, emotional, and social functioning (Creech et al., 2013). In addition, music can improve an elderly individual's mood and enable that individual to achieve those areas of functioning throughout the progression of aging.



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APPENDIX A  
LETTER OF INFORMED CONSENT

Dear Participant:

I am a graduate student under the direction of Dr. Andrea Crimmins in the Department of Music Therapy at Illinois State University. I am conducting a research study about the effects of different types of music engagement on changes in mood. You will be asked to self-identify your emotional moods by answering questions within a brief questionnaire. If you choose to participate in study, you will attend the following group sessions: 1) Live music listening group, 2) music making therapy group, and 3) a non-music recreational activity. Each session will take approximately 50 minutes each and will occur on three different days. Your participation will involve completing a brief questionnaire ranking your mood before and after each group session. You will be asked to complete the mood questionnaire a total of six times. The questionnaire should only take about 5 minutes each time to complete. Total participation in the study will be approximately three hours.

Your participation in this study is voluntary. If you choose not to participate or to withdraw from the study at any time, there will be no penalty, and it will not affect your treatment or care. You are still welcome to attend the live music listening and the non-music recreational activity even if you choose to not participate in the study. Your

responses will be confidential and any information that might allow someone to identify you will not be disclosed.

There are three potential risks participating in this study. This includes the loss of confidentiality, the risk of coercion, and loss of time. The loss of confidentiality will be minimized by numerically coding the pre and posttest forms so that responses will not be associated with specific individuals. The researcher will be the only person with access to this list and will not publish any identifying data. Risk of coercion will be minimized because your participation in the study will not affect any current treatment you are receiving and, should you be eligible for the study, you are not required to participate. The staff may be aware of your participation; however, this study is not related to your treatment or care. The loss of time will be minimized because your involvement will take no more than 3 hours. Additionally, you may choose to withdraw from this study at any time. A possible benefit of your participation is the chance to have positive musical and leisure experiences in your day.

If you have any questions concerning the research study, please contact either Dr. Andrea Crimmins or myself, Rory Bolton. For questions about research participants' rights and/or a research related injury or adverse effects, please contact the Research Ethics & Compliance Office at [rec@ilstu.edu](mailto:rec@ilstu.edu).

By signing this document, I consent to participating in this study.

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Participant's Signature

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Date

## APPENDIX B

### DEMOGRAPHIC QUESTIONNAIRE

1. What is your age? (Circle one)
  - A. 60-70 yrs.
  - B. 70-80 yrs.
  - C. 80-90 yrs.
  - D. 90+ yrs.
2. What is your gender? (Circle one) M or F
3. What is your ethnicity? (Circle one)
  - A. White/Caucasian
  - B. Hispanic/Latino
  - C. African American
  - D. Black
  - E. Asian
  - F. Islander/Pacific
4. What exposure have you had to music in your life?
5. Have you had training in music in your life? (Circle one) Y or N
6. What activities during your day do you find rewarding?
7. What are your expectations of this study featuring a musical performance, a music therapy session, and a non-musical activity?



## APPENDIX C

### RECEPTIVE MUSIC LISTENING PERFORMANCE PROGRAM OUTLINE

1. *Runaround Sue* by Dion (1961)-performed on piano
2. *Beyond the Sea* by Jack Lawrence (1959)-performed on piano
3. *My Funny Valentine* by Rodgers and Hart (1937)-performed on piano
4. *Sentimental Journey* by Brown, Homer and Green (1944)-performed on guitar
5. *On the Sunny Side of the Street* by McHugh and Fields (1930)-performed on guitar
6. *La Bamba* (Mexican folk song, 1958)-performed on piano
7. *Dream a Little Dream of Me* by Andre, Schwandt and Kahn (1931)-performed on piano
8. *Folsom Prison Blues* by Johnny Cash (1957)-performed on guitar
9. *Moon River* by Henry Mancini (1961)-performed on guitar
10. *You'll Never Walk Alone* by Rodgers & Hammerstein from *Carousel* (1945)-performed on piano

## APPENDIX D

### EXPRESSIVE MUSIC MAKING GROUP MUSIC THERAPY SESSION PLAN

**Materials:** Parachute, guitar, lyric sheets, tambourines, egg shakers, conga shakers, chiquitas, frame drums and mallets, iPad, iPad speakers

#### **Application #1**

Title: In the Good Old Summertime

Goal: To enhance cognitive stimulation

Objective: Clients will verbally respond to a verbal prompt given by SMT at least once in the application

Non-Musical Function Outcome: Clients may experience a positive, enhanced emotional state from verbal responses and may improve memory. Quality of life is a crucial need for this population

Procedures:

1. SMT (Student Music Therapist) will distribute lyric sheets to clients
2. Clients will sing through song 2x with SMT leading from guitar
3. SMT will continue playing guitar softly while referencing the summer day and give clients a chance to reflect on the current day and how they are feeling
4. Clients will sing through song once more led by SMT

Music: In the Good Old Summertime (1902 song by Blanch Ring)

*In the good old summer time,*

*In the good old summer time,*

*Strolling thro' the shady lanes*

*With your baby mine;*

*You hold her hand and she holds yours,*

*And that's a very good sign*

*That she's your tootsie wootsie*

*In the good old summer time.*

Transition: SMT collects parachute and distributes lyrics to Hey Good Lookin', humming the chorus as lyric sheets are being distributed

#### **Application #2**

Title: Hey Good Lookin'

Goal: To enhance cognitive stimulation

Objective: Clients will verbally respond to a verbal prompt given by SMT at least once in the application

Non-Musical Function Outcome: Clients may experience a positive, enhanced emotional state from verbal responses and may improve memory. Quality of life is a crucial need for this population

Procedures:

1. SMT will pass out lyric sheets to clients
2. SMT will lead song on guitar for group and have the group sing just the chorus sometimes having clients sing parts by themselves while SMT continues playing
3. SMT will divide the group into two parts
  1. Part 1: "Hey good lookin' "
  2. Part 2: "Whatcha got cookin' "
4. Sing through whole song

Music: Hey Good Lookin' by Hank Williams (1951)

*Say hey, good lookin' - what ya got cookin'?*

*How's about cooking somethin' up with me?*

*Hey, sweet baby - don't you think maybe*

*We can find us a brand new recipe?*

*I got a hot rod Ford, and a two dollar bill*

*And I know a spot right over the hill*

*There's soda pop and the dancing's free*

*So if you wanna have fun, come along with me*

*Say hey, good lookin' - what ya got cookin'?*

*How's about cooking somethin' up with me?*

*I'm free and ready, so we can go steady.*

*How's about saving all your time for me?*

*No more lookin' - I know I been cookin'*

*Hows about keepin' steady company?*

*I'm gonna throw my date book over the fence*

*And buy me one for five or ten cents*

*I'll keep it till it's covered with age*

*Cause I'm writin' your name down on every page*

*Say hey, good lookin' - what ya got cookin'?*

*How's about cooking somethin' up with me?*

Transition: That's one of my favorite Hank Williams songs and it was wonderful to see such lively participation from all of you. (Collect lyric sheets and distribute percussion instruments)

### **Application #3**

Title: Battle Hymn of the Republic

Goal: To improve fine motor skills of the pincer grasp

Objective: Clients will move as indicated by SMT for a minimum of 1 continuous minute during application

Non-Musical Functional Outcome: Clients may demonstrate improved strength in gripping items and utensils as hands become used more often.

Procedures:

1. SMT distributes various percussion instruments to group
2. SMT leads from piano and cues rhythm with head nods

3. Group sings through song (3 verses and choruses)
4. SMT divides up group into soli sections during different choruses
5. For those able, SMT encourages marching either in seat or out of seat to the beat of the song
6. Final chorus there is a slight ritardando near the end which finishes in a big shake of the instruments

Music: "Battle Hymn of the Republic"

*Mine eyes have seen the glory of the coming of the Lord;  
He is trampling out the vintage where the grapes of wrath are stored;  
He hath loosed the fateful lightning of His terrible swift sword;  
His truth is marching on.*

*Glory! Glory! Hallelujah! Glory! Glory! Hallelujah!*

*Glory! Glory! Hallelujah! His truth is marching on.*

*He has sounded forth the trumpet that shall never call retreat;  
He is sifting out the hearts of men before His judgment seat;  
Oh, be swift, my soul, to answer Him! be jubilant, my feet;  
Our God is marching on.*

*Glory! Glory! Hallelujah! Glory! Glory! Hallelujah!*

*Glory! Glory! Hallelujah! Our God is marching on.*

*In the beauty of the lilies Christ was born across the sea,  
With a glory in His bosom that transfigures you and me:  
As He died to make men holy, let us live to make men free;  
[originally ...let us die to make men free]  
While God is marching on.*

*Glory! Glory! Hallelujah! Glory! Glory! Hallelujah!*

*Glory! Glory! Hallelujah! While God is marching on.*

Transition: SMT collects percussion instruments and distributes lyric sheets while chanting the chorus from *Battle Hymn*/playing a recording of a military sounding song in background

#### **Application #4**

Title: It Had to Be You

Goal: To enhance cognitive stimulation

Objective: Clients will verbally respond to a verbal prompt given by SMT at least once in the application

Non-Musical Function Outcome: Clients may experience a positive, enhanced emotional state from verbal responses and may improve memory. Quality of life is a crucial need for this population.

Procedures:

1. SMT will pass out lyric sheets to clients
2. Clients will sing through song 2x with SMT leading at piano
3. SMT will ask clients to fill in words "It Had to Be You" when prompted
4. Clients will look at neighbor and exchange smiles or handshake when saying "It had to be you"
5. Clients sing through song final time

Music: "It Had to Be You" by Frank Sinatra (1<sup>st</sup> appeared in 1924)

*It had to be you, it had to be you  
I've wandered around, finally found somebody who  
Could make me be true, Could make me be blue  
And, even be glad just to be sad thinkin' of you  
Some others I've seen, Might never be mean  
Might never be cross Or, try to be boss  
But, they wouldn't do  
For nobody else gave me a thrill  
With all your faults, I love you still  
It had to be you, wonderful you  
It had to be you*

Transition: SMT will collect lyric sheets while continuing to prompt a fill in the blank sing along style (ex. "It had to be \_\_\_\_")

### **Application #5**

Title: As Time Goes By

Goal: To enhance cognitive stimulation

Objective: Clients will verbally respond to a verbal prompt given by SMT at least once in the application

Non-Musical Function Outcome: Clients may experience a positive, enhanced emotional state from verbal responses and may improve memory. Quality of life is a crucial need for this population.

Procedures:

1. SMT will pass out lyric sheets and lead from piano
2. SMT will designate group members to be the sound effects for the following: *kiss, sigh, woo, charge* (during "love and glory")
3. Clients will sing through song 2x
4. SMT will ask clients to fill in words "*As Time Goes By*" after singing through song once
5. Sing through song a 3<sup>rd</sup> time

Music: As Time Goes By from "Casablanca" (1930s)

*You must remember this  
A kiss is just a kiss, a sigh is just a sigh.  
The fundamental things apply  
As time goes by.  
And when two lovers woo  
They still say, "I love you."  
On that you can rely  
No matter what the future brings  
As time goes by.  
Moonlight and love songs  
Never out of date.  
Hearts full of passion  
Jealousy and hate.  
Woman needs man*

*And man must have his mate  
That no one can deny.  
It's still the same old story  
A fight for love and glory  
A case of do or die.  
The world will always welcome lovers  
As time goes by.*  
Transition: SMT will play a tag of the song on piano and end acapella with group responding "As Time Goes By"

### **Application #6**

Title: Down by the Riverside

Goal: To enhance cognitive stimulation

Objective: Clients will verbally respond to a verbal prompt given by SMT at least once in the application

Non-Musical Function Outcome: Clients may experience a positive, enhanced emotional state from verbal responses and may improve memory. Quality of life is a crucial need for this population.

Procedures:

1. SMT will pass out various percussion instruments to group
2. Starting with a single pulse/beat, SMT will model for group to entrain with before singing
3. SMT will lead from guitar and cue beat with head nod
4. Clients sing through 1st verse and chorus  
V2: Put on my long white robe  
V3: Put on my starry crown  
V4: Repeat V1
5. SMT will vary tempo and encourage clients to listen in closely

Music: Down by the Riverside (Traditional gospel)

*Gonna lay down my sword and shield*

*Down by the riverside*

*Down by the riverside*

*Down by the riverside*

*Gonna lay down my sword and shield*

*Down by the riverside*

*Ain t gonna study war no more.*

*I ain't gonna study war no more,*

*I ain't gonna study war no more,*

*I ain t gonna Study war no more.*

*I ain't gonna study war no more,*

*I ain't gonna study war no more,*

*I ain t gonna Study war no more.*

Transition: SMT collects instruments while singing final chorus through with group

### **Application #7**

Title: Oh My Darling Clementine

Goal: To enhance short term memory

Objective: Clients will verbally respond to SMT's prompt at least once in the application

Non-Musical Functional Outcome: Clients may improve short term memory in daily living tasks as a result of musical applications. Memory is one of the first areas to notice decline with this diagnosed population.

Procedures:

1. SMT will pass out lyric sheets
2. SMT will lead on guitar, having clients sing first chorus, then verse/chorus 3 more times giving a prompt to fill in some of the words to the chorus each time
3. Clients will sing 3 verses and 4 choruses total

Music: Oh My Darling Clementine (Percy Montrose, 1884)

*CHORUS:*

*Oh my Darling, Oh my Darling,*

*Oh my Darling Clementine.*

*You art lost and gone forever,*

*Dreadful sorry, Clementine.*

*Verse 1:*

*In a cavern, in a canyon,*

*Excavating for a mine,*

*Dwelt a miner, forty-niner*

*And his daughter – Clementine (CHORUS)*

*Verse 2:*

*Light she was and like a fairy,*

*And her shoes were number nine*

*Herring boxes without topses*

*Sandals were for Clementine (CHORUS)*

*Verse 3:*

*Drove she ducklings to the water*

*Every morning just at nine,*

*Hit her foot against a splinter*

*Fell into the foaming brine. (CHORUS)*

Transition: SMT collects lyric sheets while continuing to prompt clients with fill in the blanks as part of the song

### **Application #8**

Title: Darktown Strutters' Ball

Goal: To improve fine motor skills

Objective: Clients will move as indicated by SMT for a minimum of 1 continuous minute during application

Non-Musical Functional Outcome: Clients may demonstrate improved strength in gripping items and utensils as hands become used more often.

Procedures:

1. SMT will pass out various shakers and drums (half to each side of the group) and will lead at the piano

2. First time through will be under tempo so clients can sing along to music (the drums will be on beats 1 & 3 while the shakers are on beats 2 and 4 and SMT will indicate with hand signals/cues)
3. Gradually tempo will increase as clients become familiar with the song
4. During music interlude, clients will be invited to creatively improvise with their instruments
5. SMT will vary tempo going from a slow start to a gradual accelerando by the end
6. Clients will sing through song 3 or 4 times total

Music: Darktown Strutters' Ball (Fats Domino, 1917)

*I'll be there to getcha a taxi honey*

*Better be ready 'bout half past eight*

*Now baby don't be late*

*I wanna be there when the band starts playing*

*Remember when we get there honey*

*Two-step I'm gonna have them all*

*Gonna dance out of both of my shoes*

*When they play the Jelly Roll Blues*

*Tomorrow night at the Darktown Strutter's Ball*

Transition: SMT will collect instruments (shakers and drums) while playing a recording of the song in the background

### **Application #9**

Title: Fascination

Goal: To elevate mood

Objective: Clients will show positive affirmation through either eye contact, tapping hands/toes, or singing along with the words during the application

Non-Musical Functional Outcome: Client may experience a positive, enhanced emotional state from participation. Quality of life is a crucial need for this population.

Procedures:

1. SMT will pass out lyric sheets to clients
2. Clients will sing through song 2x with SMT leading on piano/guitar
3. Clients are asked to picture a scene in relation to the music as they sing-what are they dressed like? Who are they with? Is there a big orchestra?
4. Clients sing through song once more in closing
5. SMT may choose to sing a verse acapella and move with select clients (swaying arms, etc..) while continuing to sing

Music: *Fascination Waltz* by F.D. Marchetti (sung by Nat King Cole)

*It was fascination I know*

*And it might have ended right then at the start*

*Just a passing glance, just a brief romance*

*And I might have gone on my way empty hearted*

*It was fascination I know*

*Seeing you alone with the moonlight above*

*Then I touched your hand and next moment I kissed you*

*Fascination turned to love*



Transition: SMT collects lyric sheets and says it is now time to say goodbye and goodnight (as music is starting in)

### **Application #10**

Title: Goodnight Irene

Goal: To enhance cognitive stimulation

Objective: Clients will verbally respond to a verbal prompt given by SMT at least once in the application

Non-Musical Function Outcome: Clients may experience a positive, enhanced emotional state from verbal responses and may improve memory. Quality of life is a crucial need for this population.

Procedures:

1. SMT will pass out lyric sheets and lead from guitar
2. Clients will sing chorus first then V1/Chorus, V2/Chorus, etc..)
3. SMT will pause in the music asking for a verbal prompt from clients (repeat mult. times)
4. SMT will continue playing guitar softly while concluding dialogue is taking place

Music: Goodnight Irene (1930's, Nat King Cole/Ernest Tubb)

*CHORUS: Irene Goodnight, Irene goodnight,*

*Goodnight Irene, goodnight Irene*

*I'll see you in my dreams*

*V1: Last Saturday night I got married*

*Me and my wife settled down*

*Now me and my wife have parted*

*Gonna take another stroll down town (repeat chorus)*

*V2: Sometimes I live in the country*

*Sometimes I live in town*

*Sometimes I take a fool notion*

*To jump in the river and drown (repeat chorus)*

Transition: This concludes our session today and I am very grateful you could all be here. I am now going to administer a second questionnaire as follow up to the music. Please flip over the page in your packet and fully complete the questions. Once you have completed this, you are free to leave as you wish.

APPENDIX E  
PANAS QUESTIONNAIRE

### Worksheet 3.1 The Positive and Negative Affect Schedule (PANAS; Watson et al., 1988)

#### PANAS Questionnaire

This scale consists of a number of words that describe different feelings and emotions. Read each item and then list the number from the scale below next to each word. **Indicate to what extent you feel this way right now, that is, at the present moment OR indicate the extent you have felt this way over the past week (circle the instructions you followed when taking this measure)**

1	2	3	4	5
Very Slightly or Not at All	A Little	Moderately	Quite a Bit	Extremely

_____ 1. Interested	_____ 11. Irritable
_____ 2. Distressed	_____ 12. Alert
_____ 3. Excited	_____ 13. Ashamed
_____ 4. Upset	_____ 14. Inspired
_____ 5. Strong	_____ 15. Nervous
_____ 6. Guilty	_____ 16. Determined
_____ 7. Scared	_____ 17. Attentive
_____ 8. Hostile	_____ 18. Jittery
_____ 9. Enthusiastic	_____ 19. Active
_____ 10. Proud	_____ 20. Afraid

#### Scoring Instructions:

**Positive Affect Score:** Add the scores on items 1, 3, 5, 9, 10, 12, 14, 16, 17, and 19. Scores can range from 10 – 50, with higher scores representing higher levels of positive affect. Mean Scores: Momentary = 29.7 ( $SD = 7.9$ ); Weekly = 33.3 ( $SD = 7.2$ )

**Negative Affect Score:** Add the scores on items 2, 4, 6, 7, 8, 11, 13, 15, 18, and 20. Scores can range from 10 – 50, with lower scores representing lower levels of negative affect. Mean Score: Momentary = 14.8 ( $SD = 5.4$ ); Weekly = 17.4 ( $SD = 6.2$ )

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## APPENDIX F

### DEBRIEFING QUESTIONNAIRE

1. In your life, in what settings or occasions have you been most often exposed to music?
2. What role or roles has music played in your life?
3. To what extent were your expectations of the study fulfilled? If they were not, how were they different?

APPENDIX G  
CONTINUING STUDY SCRIPT

(To be read at the start of the second and third conditions)

Welcome back ladies and gentlemen. As a reminder, you have chosen to participate in a research study comparing mood and music. You have already completed (1 or 2) of the conditions, as there are 3 total followed by a brief questionnaire at the conclusion of the study which will allow you to reflect on your experience as a participant.

If this is your first time being a part of this study, you are welcome to sit and listen to the music (if applicable) but unfortunately you will not be able to participate in the study as you needed to be present from the beginning to continue your participation.

Please let me remind you at any time, your participation is voluntary and you are welcome to withdraw from the study. Your withdrawal will not have any effect on your treatment or care. Should you choose not to participate, you are still welcome to attend any of the music or non-music activities in the study.

If you have any questions concerning the research study, please contact myself or my supervisor, Dr. Andrea Crimmins.

If there are no further questions at this time, let us continue on with Part 2/Part 3 of the study.

Thank you for being here today.