EMOTION RECOGNITION EDUCATION IN WESTERN ART MUSIC APPRECIATION

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ABSTRACT

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Because Western art music is harmonically more complex than popular music and because it is written with musical notation, it may be challenging for certain people with no music training (non-musicians), those who did not grow up with Western art music, or those who did not choose to listen to this type of music for enjoyment to understand and appreciate it. Furthermore, there is a prevalent belief that Western art music is for the wealthy and elderly. This belief may be preventing symphony orchestra groups from cultivating new audiences. This study aims to determine if a narrative music listening activity would generate emotional response and cognitive engagement in a study group of non-Western art music listeners and prompt them to create musical narratives. Theoretically, narrative form music listening may present episodic memories, which can be built up into stories.

To test the effect of narrative music listening activities, an online survey was distributed to non-Western art music listeners in the 20 through 40 age range, and pretest–treatment–posttest activity was devised and administered to three groups, an absolute music listening group, a programmatic music listening group, and a polyphonic

texture listening group. In the treatment section, the creative listening activity, participants were prompted to create musical narratives, which take the form of colors, shapes, dialogues, or explicit stories. Participants were then asked to write about the music they heard before and after the narrative music listening activity. Participants' motivation to attend a Western art music concert was assessed via a motivation scale using Likert scales. The results suggest that this online activity's multimodality was a promising method for enhancing the appreciation of Western art music.

DEDICATION

This dissertation is dedicated to Sonic and Basho Fleming. Being a single mom is not hard for me because you have always been the source of my joy. Thank you so much for being good men. I really appreciate all your good ways. I am so proud and so blessed that I have sons like you.

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A. M.

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Chapter I

INTRODUCTION

Western art music originated in Europe around 500 AD and has since taken its role as a core element of European culture. Apart from its social and cultural prominence, and apart from its professional status, there are a number of profound benefits associated with the study and enjoyment of Western art music for people of all ages. Some studies have reported that listening to Western art music can improve sensory acuity, spatial reasoning skills, and general intelligence (Kanduri et al., 2015). However, Western art music is losing its audiences and failing to attract young non-musicians for a number of complex reasons. When I worked at the American Symphony Orchestra League as a web programmer in the 1990s, I was part of an audience growth initiative project. In my experience, young people rarely listen to Western art music because it is "not cool enough" and is "too long and boring" which is the same stereotypical image of Western art music that Getz (2015) discovered in her research.

Rizkallah (2009) states that only about 10%-15% of American adults have at minimum a moderate connection with Western art music and that many Americans have reported that Western art music appears unfamiliar to them. According to Getz (2015), many people believe that Western art music is not a part of modern culture. This is not accurate, however, because Western art music is deeply embedded in aural and visual media across practically all genres. For instance, popular music, which refers to music from about 1850 onwards, and film music are directly inspired by Western art music.

Eatok (2010) found that people feel that Western art music lacks emotional appeal because of this misunderstanding of the role of Western art music in modern culture.

The National Endowment for the Arts (NEA) reported in 2012 that only 8.8% of Americans attended a Western art music performance in the previous 12 months, compared to 11.6% a decade earlier. Silber and Triplett (2015) found that older Americans are the only demographic group to show an increase in attendance in the first decade of the 21st century. According to Tong et al. (2016), older adults make up a plurality of the consumer market for Western art music. In contrast, the obstacles for appreciation of Western art music for young people are numerous. Rizkallah (2009) reports that younger audiences are often not comfortable with the atmosphere at orchestra performances. Audiences at Western art music concerts are often expected to be entirely silent while the music is playing, part of the ambiance of traditional live performances that is appealing to older audiences but not to broader demographics. On another note, Abraham et al. (2017) suggest that music genre stereotyping can bias the accessibility of art music for certain audiences. This in turn goes to the issue of education and comfortable exposure at a younger age. In fact, many of the stereotypes about Western art music may be created by unfamiliarity with this musical genre, and the situation has gotten more serious as time goes on. Getz (2015) claims that people do not discuss musical form and meaning, among many other parameters as much as they did in the past. The lack of opportunity to get exposed to the environment of Western art music could be one reason people cannot enjoy listening to Western art music.

Non-Western art music listeners who did not grow up with Western art music or are not familiar with it are another group that could benefit from more opportunities to get familiarized with Western art music. To counter this, a certain type of exposure can familiarize new audiences with unique musical elements, and primary among the attractions of Western art music is tonal harmony. Argstatter (2016) explains that the use of key relationships, harmonic progression, and the dramatic potential of tonality creates emotional reactions and expectations in listeners. It is not necessary for newer audiences to be "trained" or attend traditional "appreciation" classes in order to engage with tonal harmony. Instead, well-designed and effective forms of exposure can occur as "implicit learning," which refers to knowledge that is acquired passively but effectively under certain conditions (Sun, 2008). Deeper understanding and familiarity with the often complex harmonies of Western art music may help people develop a more natural attraction to its aesthetic dimensions. When levels of familiarity rise, so do emotional reactions and connections with this music, according to Pereira et al. (2011). One of the primary ways to expand Western art music audiences is to foster music appreciation in the younger generations, and in newcomers to this art form. Getz (2015) argues that pedagogies to enhance the study and appreciation of Western art music should be more aggressively pursued in educational systems if we want to expand the enjoyment and personal engagement with art music across society as a whole. This is especially important because, to date, there have been a number of obstacles to this goal, including a powerful market for competing musical forms; after all, popular music is incessantly promoted and dominates the music industry (Kostelanetz, 1998).

Problem Statement

Live performance of Western art music is facing an existential threat as its audiences continue to decrease generation after generation. If Western art music is to still play a significant role in modern society, people must develop an implicit learning familiarity with Western art music to understand the organization of musical elements (Dienes et al., 2011). Once audiences recognize this unique element of Western art music, other features such as the art form, concert protocol, and the complexity of the musical language can become more recognizable (Tommasini, 2007). Rousing experiences at Western art music concerts will not automatically convert younger generations into ardent lovers of Western art music. Providing these younger listeners with implicit learning and letting them create their conceptual structures could allow them to develop familiarity with Western art music and absorb the musical forms in the way that makes the most sense to them.

One way that non-Western art music listeners, among others, have traditionally gained familiarity with Western art music is through music appreciation classes. However, Silverman (2009) found that her students were disengaged from their Western art music-oriented music appreciation class, especially among diverse populations, which may not easily engage with Eurocentric pedagogical assumptions. Since most music educators have European training, teaching diverse students might raise concerns about the bias that may associates classical music with whiteness, which is another stereotype about classical music. More studies need to be done to discover who is at a disadvantage to enjoy emotional responses to Western art music.

Rationale

The social perceptions discussed previously are accurate as the majority of the audience members who attend Western art music performances continue to be wealthy older adults and those with a higher level of education and economic standing. In order to break this stereotype, I plan to turn the new culture into a place where music listening is creative. I plan to encourage non-Western art music listeners to get exposed to Western art music and recognize the extra-musical elements so that they might invent musical narratives. I explore narrative music listening, whose purpose is to encourage participants to connect music with extra-musical elements that can trigger narrative. I hope those who are unfamiliar with Western art music can become attracted by the complex harmonies of Western art music. In turn, this is designed to enhance their understanding of the range and nuance of the emotions that are conveyed in these genres.

In this study, I introduce Western art music to new audiences, using narrative music listening activities via a multimodal platform. I designed an online activity for non-Western art music listeners to help them to associate music with a wide spectrum of extra-musical elements. Extra-musical elements, such as colors or shapes, or conversations, should strengthen links with the structural, expressive, and affective parameters of the music, and may deepen both the intellectual and emotional engagement with these genres. This experience should also strengthen episodic memory; thus, music gains a multitude of associations and food for thought long after a piece is heard.

There are a number of prevailing barriers to the rich engagement with Western art music. One of the primary barriers is the cultural status of pop music. Popular music is

well-liked, in large part, because its lyrical music moves audiences and evokes emotion through explicit narrative (Mihalcea & Strapparava, 2012). Thus, one goal of this study is to draw out the implicit or potential narratives that exist in Western art music. This is actually well underway in social and institutional settings that are not in the explicit consciousness of listeners and audiences for aesthetic products. For instance, soundtracks for films already exploit the huge potential for art music to cement multidirectional associations between a textual narrative, a visual sequencing, emotional atmospheres, and powerful narratological elements delivered through the skills of the actors, among many other parameters. I believe it might be possible to support and motivate young adults to similarly enjoy Western art music as a form of narrative by participating in the narrative music listening activity that I created. Not all orchestral music is narrative; however, Western art music style narrative musical compositions in animation and films are currently introducing many audiences to Western art music. According to the *Wall Street Journal*, the use of visual aids, such as movies for symphony orchestras, is an effective way to attract audiences (Passy, 2018). Film music composers intentionally create the mood that fits the scene to indicate what is happening and what the audience expects next. Narrative music listening activity participants were immersed in creating authentic and enjoyable storylines based on their interpretations of meaning and feeling in the original art form.

Purpose

My research was designed to evaluate if narrative music listening activities can engage and inspire emotion responses to Western art music in this case by non-Western art music listeners. The purpose of this study is to examine the effect of a music listening activity on non-Western art music listeners attending concerts. This study analyzes the reactions of young adults ranging in age from 20 to 40 years old. There is a history of successful attempts to reach a diverse audience, and thus, included in this study is an awareness for methods that have worked in the past. For instance, 20th-century figures such as Leonard Bernstein, with his Young People's Concerts, perfected the art of drawing new listeners to Western art music with storylines that convey musical emotions (Bernstein, 1993). Having a charismatic medium such as Bernstein who creates narratives is one of many indications that this is a potentially rich avenue of research and of pedagogical development. The narrative music listening activity presented in this study has as its goal to foster enjoyment in Western art music listening among non-Western art music listeners, who would gain an increased ability to recognize and appreciate the many elements in this music, including harmony, tonality, orchestration, the design of longer compositions, among many others.

Dissertation Research Questions

I previously conducted three pilot studies to examine the effectiveness of the graphic notation and animation and films that I created. These pilot studies, combined with a comprehensive literature review, prompted several research questions that I

pursued for this dissertation project. The main research question of this study is as follows: Can narrative music listening activity help non-Western art music listeners discover emotional responses to Western art music? I am investigating whether this narrative music listening activity can improve people's music listening reflection responses. My study is a pretest-posttest design, and participants will be asked to write listening responses before and after narrative music listening activity. The additional research questions are:

Attitude:

1. Does narrative music listening activity help motivate non-Western art music listeners to attend Western art music concerts?

Listening Skills:

2. Do non-Western art music listeners with better aural memory show more interest in attending Western art music concerts following the narrative music listening activity?
3. Do non-Western art music listeners who recognized major/minor harmony show increased interest in attending a Western art music concert following the narrative music listening activity?
4. Do analytical thinkers show increased interest in attending a Western art music concert after the narrative music listening activity? (a scale range was used for my participants to answer if they are more creative thinkers or more analytical thinkers)

5. Do non-Western art music listeners notice changes in music used in the narrative music listening activity?
6. Do narrative music listening activities help non-Western art music listeners to discover new ways to appreciate Western art music?

Types of Music:

7. Will the narrative music listening activity using programmatic music increase non-Western art music listeners' engagement emotionally and cognitively?
8. Will non-Western art music listeners write detailed responses to Western art music after the narrative music listening activity introducing polyphonic texture?

Emotion Recognition Education in Music Listening

Dare (2017) wrote that "the only way to make the audience younger … is to bring the cultural changes into Western art music." One of these cultural changes Dare suggested is to create a sense of togetherness and a joyful experience to connect music and audiences. These phenomena often involve a combination of cognitive and emotional states. Emotions typically follow cognitive appraisal—thinking about an event and assigning it a value based on how it affects you (Folkman & Lazarus, 1984). One example is Benjamin Zander, the conductor of the Boston Symphony Orchestra, who taught his audiences how to listen to and appreciate Western art music in a February 2008 TED talk. He believed Western art music is for everyone and pushed his audience with different backgrounds and disciplines to design story, empathy, play, and meaning from listening to him play Western art music with a piano. Therefore, I am examining whether

my narrative music (that is, music that tells a story) listening activity improves non-Western art music listeners' emotional responses to Western art music.

Chapter II

LITERATURE REVIEW

To answer the primary research question, this literature review begins by discussing elements of Western art music appreciation, including listening skills, musical notation, learning harmony, and emotion recognition. Next, I briefly introduce orchestra community partnerships, current Western art music audiences and marketing issues, and research on middle-aged adult audiences. I then introduce the studies that have compared the listening skills of musicians and non-musicians. Next, I discuss the perception and memory of film music that has attracted non-musicians. After reviewing studies about non-musicians being challenged to understand musical elements, primarily harmony, this chapter concludes by introducing the emotion recognition studies incorporated in the narrative music listening activity. In addition, I raise the question of whether my online implicit learning in music appreciation effectively fosters authentic art music appreciation in non-musicians.

Elements of Music Appreciation

There are people with no Western art music training who would still say they appreciate Western art music, a phenomenon mainly explained by the implicit learning that they have done, sometimes over a long period of time. A person may state, “I am not a musician, but I still appreciate Beethoven.” This person may have at least some implicit knowledge of Western art music. Learning without awareness, or implicit learning,

happens when people learn about rules, meanings, and regularities through being exposed to stimuli that follow a particular structure, and they apply this knowledge with little or no conscious awareness (Cleeremans et al., 1998). For example, if a student's sister practices Western art piano music at home, the student receives implicit exposure to elements of Western art music. Alternatively, if a student loves playing video games with orchestrated background music, this student is learning the complexity of tonality in orchestral music without conscious awareness. These people are gaining exposure to Western art music and therefore have a better sense of Western art music tonality than those who have not grown up with Western art music. In addition, music lovers who listen to popular music have implicit knowledge of musical elements that may be slightly different from elements known by Western art music lovers.

While many non-Western art music listeners implicitly learn about Western art music, explicit learning can occur through music appreciation courses and pedagogical theory, which teaches non-Western art music listeners approaches to the art of listening. According to Hafer (2012), the goal of a music appreciation course and pedagogical theory is to teach non-musicians approaches to the art of listening. To appreciate music, it is helpful if non-Western art music listeners are able to notice that music induces emotional responses in its listeners. Once they attain so-called musical emotion recognition, this will affect how they feel and remember musical compositions. Music appreciation classes are designed to encourage non-Western art music listeners to develop or expand their implicit knowledge of Western art music and thus their musical emotion recognition. Furthermore, students who take art appreciation classes in college

also seem to have a greater appreciation for the art of listening compared to those who do not (Rizkallah, 2009).

Yet, negative stereotypes of Western art music limit the ability of non-Western art music listeners to learn and retain new information about this musical genre. These stereotypes are partially explained by the fact that the majority of audience members at live Western art music performances are wealthy older members of society and those with a higher level of education (Rizkallah, 2009). Rizkallah further concluded that the key to solving this issue is understanding why some people in certain demographic categories seem to attend Western art music concerts more than others. This phenomenon may be explained by the knowledge that people have had unequal opportunities to have implicit music appreciation experiences, and some negative attitudes toward explicit music appreciation learning, when it comes to Western art music.

Listening Skills

Schäfer et al. (2013) investigated why individuals often listen to music. To narrow down the roles of music in people's lives, they conducted an empirical study aiming to derive the primary functions of music. Schäfer et al. argue that there are three primary dimensions to why people listen to music. The first is to regulate emotions and stimulate moods; the second is to attain self-awareness; the third is to express social relations. Listening to music is a common activity for people to engage in during leisure time, and Schäfer et al. summarized their research by stating that the main function of music in psychology is to arouse certain moods among listeners and help them become aware of themselves.

There are several ways to teach people listening skills. Music appreciation classes are one way, but they often use a music-theory approach to Western art music. Music theory is important to becoming a music listener, but its terminology and methods are complicated. Thus, Western art music theory may not be suitable for some people. For example, Silverman (2009) examined the approaches and techniques used to teach Western art music appreciation in a major urban secondary school. Students from the community where people identify themselves with more than one ethnic group, a Eurocentric view of music education will not work because they grew up with different music and culture. Most music education teachers in American schools are Caucasian and education focuses on Western classical music (Elpus & Abril, 2019). Despite programs that sponsor youth musicians of color, such as The Atlanta Symphony Talent Development Program, Western art music consists of Europeans trained white and Asian. According to data by the League of American Orchestras, in 1996, the percentage of Black and Latin American musicians in American orchestras was only one percent. In 2016, that increased to just four percent (Doeser, 2016).

Diverse popular culture elements are among the culprits in the gradual decline of Western art music audiences. Unlike other music, Western art music pieces have unique defining elements, such as the length of the music and complex harmonies. Regarding the length of some Western art music compositions, Tommasini (2007), a music critic for the *New York Times*, argues that the music invites the audience to focus, internalize, and follow narratives that unfold over a relatively long period. What matters most in these pieces is the complex structure and organization of harmony and tonality. Western art

music is complex and has long narratives, which is an issue because modern audiences perceive shorter and less complex songs as more approachable. New audiences must develop familiarity with complex harmony used in Western art music to understand the organization of the musical note relations. An issue with the length is that Western art music performers expect the audiences to sit in silence despite witnessing impressive and exciting moments and episodes. Younger generations may find it difficult to maintain silence during a long Western art music performance with complex harmony. Some people who are not familiar with Western art music's complexity may have a short attention span and become easily distracted or bored because they have not found the active listening technique. Narrative music listening could be one of the listening techniques that helps non-Western art music listeners. For example, twentieth-century composers such as Leonard Bernstein perfected the art of drawing new listeners to Western art music with storylines that convey musical emotions because his lectures /concerts for young people introduced them to narrative music listening skills and musical knowledge. For Igor Stravinsky's 80th birthday, Bernstein told his audience the imaginative and fantasy story of "Petrushka" while conducting this ballet music (1962). He asked his audiences to imagine themselves in Russia's carnival so his audiences can be inside the musical narrative. Bernstein introduced active listening that he asked audiences to have similar experiences as the composer's world. Reimer suggests that music education's role is to improve people's emotional response to music and develop listeners' active listening capacity. In other words, music appreciation

requires the development of aesthetic sensitivity – the ability to respond to emotional values and cognitive meanings in the art (Reimer, 2003).

Harmony

Harmony (i.e., chord, progression, key, tonality, consonance, dissonance) conveys emotion. A study by Willimek and Willimek (2013) introduced that a human baby exhibits predictive processing of major-minor and consonance-dissonance as a component of the Western tonality system. Consonance and major chords tend to be perceived as happier compared to dissonance and minor chords, which are often associated with sadder moods (Ewer, 2009). Chord progressions are one of the many techniques that musical composers use to input emotion into music (Numao et al., 2002) and thus tell a story without using words. Many compose music by first deciding on the harmony (tonality and chord progressions) as a structure and then adding the melody and details (Cho et al., 2016). Therefore, Western art music appreciation educators seem justified in prioritizing harmony in their teaching.

However, while tempo is easy for non-musicians to remember (Boltz, 2009) and listen to (Geringer & Madsen, 1995), harmony is not as easy to remember and listen to, even with visual support (Boltz, 2009). Studies have had contradictory results on harmony and visual support: Some studies have found that musical appreciation is enhanced by visual storytelling in film (Boltz et al., 2009), while others (Liu et al., 2018) concluded that harmony was not easy for non-musicians to listen to and was not influenced by visual scenes. Furthermore, the specifics of harmony (chord, progression, key, tonality, consonance, dissonance and textures) may not easy for non-musicians to

identify. Thus, the inability to recognize harmony might be an obstacle for non-Western listeners, among others, in appreciating Western art music.

Musical Notation

Music appreciation classes also aim to teach Western traditional music notation to non-musicians (Halpern, 1992), and to introduce musical elements such as harmonic analysis. However, traditional music notation includes a lot of information, such as the order of the sharps and flats, the basic symbols, and the scales on a page. As argued by Gordon (2004), experienced music educators know how difficult students find it to memorize the names of the lines and spaces of the staff, the names of accidentals, the names of key signatures, and the order of sharps and flats in a key signature as prerequisites for reading and writing music notation. To have non-Western art music listeners look at a music score would be too complicated, as music scores contain so much information simultaneously; therefore, it is a challenging read. Kerr (2014) also argued that the split-attention effect—in which two or three sources of information are physically separated or delivered successfully—is relevant to music notation instruction. Music note reading is not actually reading; it is decoding symbols written by composers. Music notation is a system used to visually represent aurally perceived music played through the use of written symbols. Reading and decoding are different. Decoding is the process of converting an encoded format back into the original form (Kerr, 2014). Notational audiation is the ability to hear the sound of music notation before a person sings or plays it (Brodsky et al., 2003). An even more challenging activity is recognizing

harmonic progressions even with the help of a musical score because many Western art music pieces are complex.

Graphic Notation

Graphic notations use sketches to outline musical composition with simple pictures, which allowed music to be turned into abstract drawings. Graphic notations were used in enhancing memorizing and improvements during the process of music therapy (Bergstrøm-Nielsen, 1993). Graphic notation facilitates the mental manipulation of auditory patterns (McLachlan et al., 2010). The graphic notation was developed in a Danish music therapy program. Since 1986, Bergstrøm-Nielsen (1993) has taught graphic notation, and he has devised various methods of teaching it. To enable personalized learning, each graphic notation is designed individually according to the student's personality and the required improvisation. However, Buonviri (2010) suggested that visual matching notation reinforcement of melodies does not affect aural memory of those melodies in terms of either pitch or rhythm. I suspect that for many listeners, graphic notation is too abstract, such that it may require some training to translate musical features, as McLachlan et al. (2010) concluded in their studies.

McLachlan et al. (2010) demonstrated that melodic and rhythmic manipulation can improve with weekly sessions focused on all notation types with the help of graphic notation. In this experiment, the performance of participants using Western notation did not show improvement during the session. However, for those participants using graphic notation, there was a steady increase in performance. The participants needed several sessions to gain a sense of confidence and familiarity with both notation styles.

Buonviri (2010) investigated how aural distractions affect the pitch and rhythm elements of melodic memory when melodic dictation is conducted both graphic notation and aurally compared to when it is only conducted aurally. Additionally, Buonviri investigated the effects of both visual and aural melodic stimuli in melodic dictation to determine whether temporary visual storage of melodies used in melodic dictation might enhance melodic memory. All of the participants were Northeastern University music students who had completed college-level music theory classes. None of the students had perfect pitch. Target melodies were presented to Group 1 aurally. In addition to the aural presentation, Group 2 also received a graphic notation. All melodies were generated by an *Encore* (2009) piano patch with *Encore* notation, and all participants used headphones. Buonviri (2010) experimented with melodic memory using a sequence of target melodies, distraction melodies, and matched and unmatched response options. Students then chose which of two aural melodies matched the original target. Buonviri (2010) found no statistically significant difference between the two sample means. Thus, he suggested that visual matching graphic notation reinforcement of melodies does not affect aural memory of melodies in terms of either pitch or rhythm.

McLachlan et al. (2010) investigated whether graphic notation of pitch and time, compared to the Western symbolic notation, facilitates non-musicians' cognitive processes in terms of their ability to process music. The participants were 26 non-musicians. They were presented with pairs of different rhythms and asked whether a musical transformation (pitch and rhythmic changes) had been applied in the second rhythm. McLachlan et al. stated that graphic notation performance improved to notice

musical transformation within the four sessions, with improvements observed after every session. non-musicians need some training to be able to understand graphic notation. Non- musicians lack the training required to identify the link between symbolic information, contained in both Western and graphic notation, and musical identities, such as rhythmic, melodic, and harmony.

Teaching Harmony

Jonaitis and Saffran (2009) question how music carries meaning for listeners, which has been a subject of scientific discussion for many years. When it comes to the frameworks concerning music cognition, it has been proven that set sequences of harmonies transfer specific musical expression (Bigand et al., 1996). However, new studies aim to determine whether previous implicit knowledge (regarding patterns of chord transitions) of typical chord occurrences has influenced people's ability to learn unfamiliar musical structures. Jonaitis and Saffran (2009) also conducted a study directed primarily at measuring adults' ability to learn unfamiliar harmonies through the lens of statistics based on the distributional hierarchy (pitches within a context phrase) of music sequences. During an experiment using traditional Western music with two contrasting chord progressions (well-formed and ill-formed chord progressions), listeners could distinguish between a well-formed chord (pleasant sound) and an ill-formed chord (crashing sound) progression, which is not easy or pleasant to listen to. Thus, Jonaitis and Saffron concluded that implicit knowledge of chords has a significant influence on learning harmony, especially learning the distinction between well-formed and ill-formed chords.

When students have difficulty hearing harmony, music educators suggest that they should learn to analyze music scores and perform ear training exercises during their practice. Part of the process of learning chords is understanding why some chords sound sad and others sound happy. Sutton (2017) received the following message from one of his students:

> I'm starting to suspect that I have a brain that simply cannot comprehend the distance between notes, no matter how hard or for how long I try. Have you ever encountered anybody with "music dyslexia?" Is there such a thing?

Whether the ability to comprehend note relationships is innate is the question that is addressed in the following section.

Emotion in Harmony

Composers use harmony and tonality to structure a piece and foster engagement and emotional satisfaction in listeners. Key relations, which create musical expression, are more complicated in Western art music than in popular music. Having difficulty in recognizing emotions in harmony (chords and tonality) seems similar to the emotion recognition skill-training games that are designed for people with alexithymia and autism spectrum disorder (ASD). Alexithymia is a person's inability to identify or verbally describe his or her feelings. An emotion recognition game is designed to improve their skills in reading others' emotions from facial expressions. Many card games also teach people how to do so, and with the development of new technology there are also emotion recognition skill-training games, computer simulation games, and apps that do so.

Computer scientists are attempting to enhance the skills and perceptions of individuals dealing with ASD via technologies used in making skill-training games, such

as computer-aided systems (CAS) and computer vision assisted technology (CVAT). These systems can help students develop emotional intelligence by teaching them how to understand their emotions (Tsai & Lin, 2011). By extension, students can learn how to recognize these emotions in other people and understand how society perceives them. Martinez (2020) states that the ability to recognize emotions can be difficult for some people. Small facial expressions and muscle movements can tell a story; however, for some people, this story can remain a mystery (Martinez, 2020). This also applies to emotion recognition in music listening. The ability to recognize harmony and tonality is likely to be difficult for people who are not familiar with Western art music. Thus, orchestral music with chord progressions may tell a musical story, but for non-Western art music listeners, Western art music may remain a mystery.

Sociological Issues

Community Partnership to Help Familiarization

Bales (1998) argues that musical training changes how circuits are wired in the brain and that listening to Western art music can improve the capacity to think about objects in three dimensions (spatial reasoning). While Bales suggests that Western art music can be beneficial to mental development, American music education is not compulsory in many school districts. Therefore, it may be difficult for non-Western art music listeners to follow Western art music. There are, however, successful orchestra music education programs that have been attracting more youth to Western art music. Orchestra and school partnership programs are one example of programs that have been

able to increase young students' interests in orchestral music. Abeles (2004) examined the development of orchestra and school partnerships and demonstrated that students' perceptions of musicians and their opinions of musical instruments are essential determinants of their engagement in school instrumental programs.

Conditions that affect children's interest in joining an instrumental music curriculum include their parents, siblings, peers, and personal communication with artists. Furthermore, not all Americans have had the opportunity to learn musical instruments and attend symphony concerts. Orchestra community partnership programs need grant funding, but funding has been cut in many public schools' arts education programs (Slaton, 2012); therefore, many younger generations never get the opportunity to learn about Western art music. Some get musical training, but some do not. This uneven music skill level may be dividing individual differences in the interest in Western art music. Various issues arise when people with no musical training listen to music. For example, Liang et al. (2016) found that musically trained people can distinguish sounds accurately and more quickly than people with no musical training. Non-musicians tend to pay attention to a high pitch, while those familiar with music consider the pitch direction of changes (Liang et al., 2016). In addition, Geringer and Madsen (1995) state that while tempo and melody are easy for non-musicians to listen to, harmony is not. Some adults were never able to study music when they were young.

According to a survey conducted by Primrose Schools in 2011, more than half of American children and adults have never received any music education (Primrose Schools, 2011). This raises the question of how adult non-Western art music listeners can

appreciate music without any formal musical listening experience. Music appreciation has been studied in the field of sociology and the next section discusses the demographic characteristics of listeners of Western art music.

Current Western Art Music Audiences and Marketing Issues: Age

The model of goal-directed behavior (MGB) discusses behavioral intentions to attend to Western art music performances, which are primarily motivated by desires to perform these acts (Leone et al., 2004). Tong et al. (2016) present findings from MGB research that demonstrate that older adults constitute an important part of the consumer market. In addition, Tong et al. state that audiences at Western art music concerts tend to be older and lack younger attendees. The researchers also demonstrate that the main target customers of symphony orchestra concerts in the United States are subscribers. Tong et al. (2016) used an MGB to evaluate the behavioral process of the attendees of music concerts. They identified 15 productions and performance organizations for Western art music concerts. To conduct their research, they sent out copies of the questionnaires to the identified orchestra organizations in respective customer databases. The sample was comprised of 248 participants. A majority (80%) of the participants were born between 1946 and 1964. Of this sample, 60% of the participants were women and 40% were men. In addition, 80% had undergraduate or postgraduate credentials. Thus, Tong et al. associate the Western art music genre with people who are relatively elite and have a prestigious status. The majority of subscribers to orchestra organizations are older and wealthier. The audiences are mostly retired, and this means that they have more time on their hands to spend doing what they love. In the past two decades, Western art music

and art organizations have been looking for new ways other than promoting subscriptions to attract younger adult crowds. Rizkallah (2009) indicates that scholars need to focus on how Western art music organizations can encourage younger adults to attend live Western art music concerts. To do so, scholars must identify the techniques that can make younger adults learn to appreciate and desire to see live performances of Western art music.

Research on Young Adult Audiences

As part of the effort to identify how to encourage younger audiences to listen and enjoy Western art music, Rizkallah (2009) introduced findings from the Knight Foundation that note that young professional audiences protest against the ambiance of live orchestra performances. Popular music has its history of performances, its performing discourse, and its way of organizing meaning and value, which does not exist in Western art music culture and atmosphere. As McLaughlin (2000) stated,

> Finding pleasure in popular music performers, in their music, in their clothes, their bodies, we are considering a performance, not in isolation, but as a performance within a history of performances, the enactment of identity within a series of identities. (p. 271)

Also, the visual aspect of popular music performances is their staging. Performers may use facial and bodily gestures to give expression to the music's emotional intensity, while other gestures might be used to create a sense of intimacy with the audience. Younger generations may fail to connect to the Western art music atmosphere due to the existing belief that Western art music atmosphere is less expressive compared to that of popular music. Furthermore, younger adults spend a great deal of energy and time raising families

and growing their careers. The enrichment of personalities is, in many cases, a process that is put to the side. As Rizkallah (2009) concludes, Americans fail to accord art much value, with some viewing it as a luxury for the elite and rich and others considering it an unnecessary distraction. This prejudiced attitude toward Western art music plays a role in preventing younger audiences from attending Western art music concerts. The lack of implicit knowledge and stereotyping of Western art music may be influencing some non-musicians' reactions toward Western art music.

Stereotypes

Abraham et al. (2017) examined whether stereotyping affects people's emotional associations with music. The researchers aimed to understand if the responses of listeners with varying degrees of familiarity with eight music genres yield spontaneous, stereotypical emotions. Their participants listened to samples from eight distinct music genres: samba, son, heavy metal, hip hop, Japanese classical music, pop, fado, and Western classical music. The participants then described their spontaneous association with each type of music. Abraham et al. indicate that a small number of specific emotions reported for the music genre were consistently associated with stereotypes of the associated culture. These included peace and calm for Japanese classical music and its "zen" culture. Thus, they conclude that a particular genre evokes an emotion because this genre is associated with the culture from which the music originated. Music establishes social and cultural identities (Barrett, 2007).

Middle-Adulthood Music Preferences

Barrett (2007) notes that sociological research on music appreciation focuses on sociocultural factors that influence people's appreciative choices. He explains that factors, such as age and social class, shape the way people use and engage with music and their musical tastes and preferences. When people are young, they tend to listen to rock and pop, but they tend to show interest in listening to unfamiliar music when they become more established in their lives. The musical subcultures contribute to a youth culture identity and provide informational and normative social influences (Zillman & Gan, 1997). Some research shows that people's music preference switches from rock to Western art music sometime around their 20s and 30s for young adults who are employed. For example, Sting from the Police made three albums with an orchestra. Bonneville-Roussy et al. (2013) point out that older young adults prefer reflexive (therapeutic) and complex (Western art music and jazz), while younger people prefer intense music such as rock, alternative, and heavy metal music (Langmeyer et. al, 2012). Bonneville-Roussy et al. (2013) state that these intense music trends decrease at the middle-age adulthood phase.

Psychological Research

Musicians and Non-Musicians

Music appreciation has also been studied in the field of psychology as well. Angier (2009) explained that one of the ways music arouses emotions in listeners is by stimulating certain brain chemicals, as listening to music increases the neurotransmitter

dopamine. Dopamine is the brain's "motivation molecule" and an integral part of the pleasure-reward system (Angier, 2009). Therefore, my research draws on neuroscientific studies to find the difference between musicians and non-musicians when musical emotional arousal occurs.

Geringer and Madsen (1995) evaluated and contrasted the ability of music majors and non music majors to recognize specific musical elements. There are three basic elements of music: melody (pitch, range, theme), rhythm (beat, meter, tempo, syncopation, polyrhythm), and harmony (chord, progression, key, tonality, consonance, dissonance). Geringer and Madsen (1995) state that tempo and melody are easy for non-musicians to listen to but that harmony—wherein the sequence of notes appears to unfold in pleasing versus discordant ways—is not. In their study, they investigated how music-major students and non-music-major students focus their attention during their listening experience. In particular, they evaluated whether music listeners could identify the four primary music elements as well as the clarity with which they could identify the four music elements. Both the novice listeners and expert listeners showed a common primary dimension when listening to tempo.

From these reviews, I have learned that non-Western art music listeners must feel the emotion in music through its tempo and key relation. Speaking from personal experience, I have learned that teaching tempo and rhythm is less difficult. But teaching other music elements to non-Western art music listeners can be rather challenging. However, I have witnessed non-Western art music listeners appreciate orchestrated film and game music. For instance, the fictional Japanese comic book-based TV drama series

Nodame Cantabile is based on the lives of Western art music performance majors in a Japanese music conservatory. This TV drama has successfully reached and appealed to the common Japanese audience since it first aired in Japan in October 2006, and Tung argues that this comic book-based drama has made Western art music an important part of modern Asian youth culture.

Tung (2009) lists the music from *Nodame Cantabile*'s 8th episode. According to the table Tung created, the episode (running time: 47 min 4 sec) contains approximately 36 minutes of music, with about 30 minutes belonging to Western art music, which accounts for approximately 83% of the total length of accompanying music. Tung discusses some examples of music used in the drama. Rimsky-Korsakov's "Flight of the Bumblebee" is used to depict hectic, chaotic situations. To evoke another mood, Tchaikovsky's "Dance of the Sugar Fairy" from *The Nutcracker* accompanies a moment that is playful, naughty, sneaky, full of conspiracy, and even surreal (Tung, 2009). After *Nodame Cantabile* aired in Japan at the end of 2006, audiences showed renewed interest in and demand for Western art music. Tickets for the New Japan Philharmonic sold out almost immediately after the opening. Tokyo Metropolitan Symphony Orchestra sold about 1,900 seats in a 2,000-seat hall for their performance in February 2008. Furthermore, the drama allegedly increased the number of college music majors (Tung, 2009). Japanese music critics and newspapers hailed this TV drama as stimulating the stagnant market of Western art music in Japan. Thus, this shows that audiovisual exposure can significantly increase interest in certain music genres. The next section analyzes this phenomenon in film, TV, and music.

Film, TV, and Music

TV and film directors use music to evoke moods that complement the visual story that they are telling, thereby enhancing the emotional impact of the scene for the audience. Welch (1999) examined whether the format of music videos and the moods affect how musical compositions are heard and remembered. Welch also examined recognition memory to determine the impact of visual displays on other types of cognitive behavior. The experiment had two stages, wherein participants first listened to a set of five tunes in the first stage and then completed a recognition memory task. The study revealed that there is a notable three-way interaction between distractor melody effect (adding unfamiliar melodies), visual effect, and melody transformation (altering pitches in melody) type. Welch (1999) also found that the presence of visual media impacts musical cognition. Negative displays increase the recognition of negative distracters and reduce the recognition of positive distracters. The mood of visual displays distorts melody recognition. Thus, Welch provides evidence that the visual effect influenced music perception in a mood-congruent manner.

Mood-congruent music appears to enhance the emotional intensity of a scene in a given direction. Musical soundtracks can also be used to provide an interpretative framework for comprehending a story as the emotive meaning of music can be used to clarify and promote certain inferences about the motivations and actions of a character and enhance comprehension of the story. Relatedly, Boltz et al. (2009) assessed the ways that visual information may influence the processing of music. Studies of subjective reports and physiological responses and nonverbal responses show a high degree of

agreement on the emotions elicited by musical selections in films (Sloboda & Juslin, 2001). Boltz et al. (2009) also introduced some film music terms, namely "iconic relationship" and "memory code," which are analyzed in the following sections. Geringer et al. (1996, 1997) assessed emotional reactions to music used in animations. In this study, listeners were presented with certain musical selections either heard alone or as an accompaniment to excerpts from the Walt Disney film *Fantasia*. Boltz et al. (2009) demonstrated that the audiovisual format in film excerpts evoked greater emotional involvement than the music alone condition, a phenomenon primarily attributed to a composition's tempo, instrumentation, and dynamics.

Cohen et al. (2006) explored the effects of music, speech, and sound effects on an individual's absorption in a film. The researchers conducted this study in the context of the congruence-association model (CAM) of media cognition. Absorption refers to an audience's engagement in a story, which feature films aim to maximize. Cohen et al.'s area of interest was the contribution of soundtracks to absorption. The key assumption in the CAM is that the audience's goal is to create and experience a meaningful story from the material that a film presents (Neumeyer, 2015). Thus, the purpose of the study was to investigate whether the incorporation of music in a film clip was associated with higher self-rated absorption in the clip. Cohen et al. (2006) compared absorption across clips with three different soundtracks: speech alone, music alone, and sound effects alone. The researchers composed three soundtracks that suited the film to assist in determining the significance of the music track in promoting audience absorption relative to the sound effect and speech soundtracks.

Using a sample of 60 adults, Cohen et al. (2006) established that the degree of self-rated absorption in the clip was dependent on the soundtrack. Although the professional quality of the music, speech, and sound effect soundtracks were statistically significantly different, the music soundtrack had an effect on absorption. Thus, Cohen et al. concluded that music alone can be key in absorption, even when it has no direct relationship to or basis in the narrative of a film. In cases where music enhanced absorption, Cohen et al. theorized that it contributed essential information, for example regarding emotional content, to the telling of the story, which would be consistent with the CAM.

The link between music and vision is evident in many everyday activities. Music is often encountered in a visual context. Researchers have found that music influences both the memory of visual scenes and their perception (Cohen, 2001). However, the reverse relationship, namely the ways in which visual information may influence the processing of music, has been studied by only a few scholars. This study, which uses music videos, seeks to address this gap in the literature by examining whether the format and mood of a music video affect how musical compositions are heard and remembered. Several scholars have linked the film experience to soundtracks. Studies of subjective reports and physiological and nonverbal responses show a high degree of agreement regarding the emotions elicited by particular musical selections (Sloboda & Juslin, 2001).

Music is everywhere: in TV shows, advertisements, radio segments, and so on. Despite their constant interaction with music, people have still managed to master only the art of hearing rather than that of listening. Hearing is a passive process, which means

it does not use the active portion of the brain (Kucera, 2015). In contrast, listening is a fully active process that requires an enhanced level of engagement. Therefore, listening may result in learning, due to the greater acquisition of knowledge that it involves. Therefore, music appreciation lessons could introduce non-musicians how to be active listeners. Passive hearing, which occurs when music is played in the background and the listener is aware of but not paying special attention to it, is not effective in transforming non-musicians into active music listeners. Active listening is the most effective way to become familiar with music in an emotionally satisfying and intellectually challenging way.

Musical Memory in Visualization

Listening is an active process and retentive listening is the mode in which the listener's goal is to remember what they are hearing. Through the structural interplay of pitch, timing, and loudness characteristics, music can evoke different moods (Hevner, 1936; Levi, 1982; Rigg, 1964; Scherer, 1979) that are then incorporated into the ongoing visual story (Boltz, 2004, p. 1194). These visual aids may make abstract musical ideas more concrete to learners. Music may also guide attention toward aspects of a visual scene in line with the interpretative framework, thereby affecting the items that are remembered. The use of music for attentional highlighting can lead to a more integrated memory code that enhances recall of a film (Boltz et al., 2009). Boltz used a recognition memory paradigm as a converging operation. In this research, participants were exposed to five unfamiliar tunes. The experiment had two phases. In the first phase, the participants listened to a set of five tunes, of which four were accompanied by visual

scenes with varied affect and format and one was played without visual information. In the second phase, the participants were required to complete a recognition memory task. The sample in Boltz's study was comprised of students in an introductory psychology course at Haverford College. The sample had 60 participants, and 13% of this sample included members of the campus choir. The participants were required to complete a set of perceptual ratings immediately after being exposed to the tunes. The perceptual ratings focused on the perceived musical qualities, including acoustical parameters that had been identified in past studies as being sensitive to the affective manipulation of visual displays.

Harmony in Visualization

Boltz et al. (2009) showed that harmony is not influenced by visual scenes. Geringer and Madsen (1995) also state that tempo is easy for non-musicians to listen to but that listening to harmony is more difficult. Boltz et al. (2009) believe there are two possible explanations for this. First, tempo, rhythm, and loudness may seem more familiar to listeners; thus, they are less ambiguous than harmony and tonality. Second, tempo may be more influential on mood and therefore on affect (Geringer & Madsen, 1995). Harmony is considered the art of combining pitches into chords. Consonance and dissonance are the fundamental aspects of musical harmony. Consonance is typically judged as harmonious, pleasant, euphonious, stable, calm, and smooth. Dissonance is typically judged as inharmonious, unstable, tense, and rough (Bowling & Purves, 2015). These aspects emerge when two or more tones are played together, as in dyads and chords, and when tones are played sequentially, as in melodies. Cognitive consonance

and dissonance are top-down phenomena related to the knowledge of musical intervals (Rogers, 2010), which are the ratio between dissonant (clashing) thoughts and consonant (harmonious) thoughts. In their study, Krumhansl and Kessler (1982) examined how harmonies are heard in relation to one another in a tonal context. Both explicit and implicit knowledge of music can influence the perceived similarity between types of harmony. This study by Krumhansl and Kessler forms the foundation for perceptual tonality research. Listening to harmony is more complicated than listening for the melody or rhythm, but some studies show that harmony may be learned from implicit learning because listeners learn tonality through exposure to the music (Trehub et al., 1999).

Emotion Recognition Education in Music Listening

Some music, such as Indian classical music, has no harmony and its melodic lines express musical emotion. Much rap music which emphasizes its emotion through the rhythm of lyrics has no harmony or even a melody. Popular music tends to have less complicated harmony compared to Western art music but has a clear melody and tempo. Tempo is easy for the non-musicians to remember (Boltz, 2009) and listen to (Geringer & Madsen, 1995), but harmony is not easy to remember and listen to, even with visual support (Boltz, 2009). Still, the harmony (chord, progression, key, tonality, consonance, dissonance, textures) is not easy for non-musicians to identify. Thus, the inability to recognize harmony that includes emotion would be an obstacle for non-Western art music listeners in appreciating Western art music. non-Western art music listeners need the capacity to recognize other emotions in unfamiliar music, such as Western art music, to

discriminate among the different feelings and label them appropriately to appreciate Western art music.

Only recently have researchers begun analyzing the links between empathy, music making and musical perception (Greenberg, Rentfrow, & Baron-Cohen, 2015). Empathy means recognizing another person's feelings cognitively and effectively (Clark & Giacomantonio, 2015). Empathy in music listening is the increased ability to recognize emotion and meaning-making in music (Egermann & McAdams, 2013). More empathetic people can detect others' emotions more easily and have better communication skills than those who are not empathic (Ioannidou & Konstantikaki 2008). According to Hillis (2014), increased empathy makes music listening more pleasurable. Empathy is also associated with increased brain activity as there is the processing of another person's feelings (Hillis, 2014).

As stated, the ability to recognize harmony and musical emotion may be more elusive to those who have autism spectrum conditions. There are collections of online emotional intelligence training programs that can help people with alexithymia and ASD with everything from anger management to emotional identification to meditation. Golan et al. (2006) aimed to identify the ability of individuals with autism spectrum conditions (ASCs) to recognize complex emotions. They used social scenes from films as materials for the analysis. Serret et al. (2014) conducted research using a serious game that further introduced the educational program JeStiMulE, which is a training program for individuals with ASCs that aims to help them enhance their ability to recognize emotions. They demonstrated that JeStiMulE is a useful training program for individuals with ASCs

to learn how to process emotions. A group of 33 individuals with ASCs participated in exercises as part of a computer-based program for four weeks. The participants made manipulations with avatars and real-life images to recognize facial expressions and gestures to comprehend the emotion. With this study, Serret et al. demonstrated that participants improved their emotional processing skills with the help of JeStiMulE..

Right Brain versus Left Brain

Zalanowski (1986) stated that some individuals less appreciate music listening than others and music application classes can be designed for these with disadvantages. Zalanowski (1986) suggests that analytical (left-hemisphere) individuals are able to appreciate music less than the right-hemisphere individuals. Zalanowski's study involved 27 male and 33 female college freshmen and sophomores from three introductory music courses. Zalanowski administered the thinking test during regular music classes. Zalanowski used different music selections and asked 20 participants to form free mental images and offered another 20 participants a description of the story in the music. The remaining 12 participants were provided with a concrete analytical program with sections to focus on to promote better comprehension. The participants then received questionnaires to rate their attention, enjoyment, and understanding on a scale of 1 to 10.

Zalanowski discovered that cognitive style personality is one of the most crucial factors to interact positively with listening instructions. Enjoyment was positively correlated with the right hemisphere scores and negatively correlated with the left hemisphere even when Zalanowski included imagery instructions (Arthurs, 2015). Additionally, the study implies that right-hemisphere-oriented people enjoy and

understand music better under most conditions. Zalanowski's (1986) data indicates that people use the right hemisphere (more creative or artistic) in terms of enjoyment and attention. Consequently, these results are consistent with the hypothesis that a succinct intrusion in offering instructions affects aspects of music appreciation. Zalanowski implies that music courses would be most beneficial if they were to provide approaches that resonate with left-hemisphere individuals because they are currently disadvantaged when it comes to music listening.

The right brain/left brain theory versus intuition has led to a widespread belief that artists are right-brain dominant. The two sides of the human brain are indeed different, and specific areas of the human brain have specialties. The brain's right side is associated with unconscious social and emotional learning and includes intuition, empathy, creativity, and flexibility (Field, 2014). However, the left side of the human brain controls language function, and research in the implicit benefit of learning has been done to study adults' second language acquisition (Cleeremans et al., 1998). Listening is essential in learning a language, and spending more time listening improves due to implicit learning. In the same way, people who are not familiar with Western art music may still be able to enjoy this new style of music through repeated listening.

Implicit Learning (Exposure)

Implicit learning is acquired through exposure to a particular culture and does not require any conscious effort one thing with another. Thus, if someone in a person's family loves listening to Western art music, that person may already have implicit knowledge of Western art music as a result of implicit learning. Implicit memory is

related to the impact that activities and experiences can have on an individual's behavior. It is also referred to as nondeclarative memory. A famous example of this is Pavlov's dog. In 1903, Pavlov sounded a bell while presenting food to a dog, thereby stimulating the natural flow of saliva in the dog's mouth. Over time, the dog began associating the sound of the bell with getting a meal (Pavlov, 1960). As a result, the dog began to salivate at the sound of the bell. This is a part of associative memory, a memory system in which a specific piece of memory information is linked to unrelated information (Jäncke, 2008).

Relatedly, musically evoked episodic memories are connected to other strong emotions such as ecstasy, nostalgia, or thrill (Conway & Pleydell-Pearce, 2000). Although the music itself presents an expression of feelings, it can also evoke many different moods and emotions for the listeners (Jäncke, 2008). Music emotion recognition requires the combination of not only audio-based content analysis but also the assistance of specialists in the fields of sociology, psychology, and neuroscience (Kim et al., 2010). Music listening builds imaginary worlds inside listeners' minds and becomes an emotion stored in episodic memory (Eschrich et al., 2008).

Philosophical Positions on Music Appreciation

Music appreciation has been studied in the field of philosophy. Barret (2007) explains that music appreciation from a philosophical perspective has mostly focused on defining musical "beauty," discovering the unique features of the musical experience. In contrast, German philosopher Kant (1790/1931) argued that the formal aspects of music are located in sensory domains instead of cognitive ones. Therefore, he concluded that

music has less value than other art forms, such as painting, because it provokes no self-reflection. These two contrasting perspectives are examples of divergent philosophical views on the concept of music appreciation.

In the 19th century, composers began debating the purpose of music by categorizing music compositions into two groups (Dobney, 2004). They determined that programmatic music is instrumental art music that aims to represent some narration, while absolute music does not represent anything (Walton, 1994). Programmatic music is used for the soundtracks of movies to depict the characters and their activities, thus fortifying, enhancing, or qualifying the words or pictures (Walton, 1994). Thus, opera, ballet, symphonic poems, and the soundtracks of TV shows and movies depict the characters and the activity and are examples of programmatic music. Yet, Walton explains that conservative theorists typically prefer to locate the feelings expressed "in the music" rather than in the listeners and must confront the question of why the emotions in the music are not represented within musical pieces' titles. For example, Brahms is often labeled as the conservative "absolute" music composer (Pederson, 2009) because he wrote music that did not refer to a visual scene or a narrative story. Schumann once titled his Symphony No. 3 "Morning on the Rhine," but this was removed before publication because he believed that providing the title would force a certain theme on the listener (Abraham, 1952). Schumann (as cited in Abraham, 1952) believed that "If the eye is once directed to a certain point, the ear can no longer judge independently" (p. 181). However, analysts say Schumann's Symphony No. 3 is a musical depiction of the flowing Rhine River. He was inspired to write the symphony after a trip to the Rhineland

with his wife Clara (Cuyler, 1995), but as a conservative composer, his music was supposed to be absolute music or music that does not demonstrate about meaning of any description. Nonetheless, one could arguably wonder whether both absolute and programmatic music have fictional denotations.

Music Listening Journals

Music listening journals have been used in some appreciation classes. For example, the National Music Centre of Canada introduced an active listening guide (The National Music Centre, 2016) in which, after listening to music, teachers asked students if they were writing the script for a movie using the music they just heard, what the movie might be about. Music listening journals can help spur conversations with the students about what emotions they experienced from music listening or simply encourage them to try to describe what they heard.

The CAM (audiovisual structural overlap) model includes five tracks of film information: music, speech, sound effects, text, and visual scenes (Cohen, 2015). In this treatment section, participants mainly found a connection between music, visual imagination, emotion, and dialog. The experience from the narrative music listening activity should help participants verbalize their emotions, the story and image that participants imagined while listening to the music, and responses about the musical materials from the section of narrative music listening programs. Kratus (2017) examined various approaches to teaching individual and diverse music listening to students. Specifically, Kratus divided musical listening into convergent and divergent thinking. The first type is associated with a form of problem-solving that leads to a single answer,

while the second form leads to multiple answers. For instance, convergent thinking can lead to an answer about whether the song is in a major or minor key. Divergent thinking, in contrast, has multiple answers, such as the images that come to mind while listening to the song. Kratus also explored the benefits of teaching creative listening to students and suggested that creative listening helps students achieve different skills and encourages diversity. Another benefit of this teaching method is the application of higher-level thinking skills. Creative listening may also offer an increase in the diversity of students' authentic listening experiences.

While addressing the issue of developing divergent thinking, Kratus (2017) proposed four concepts from the psychology of creativity: fluency, flexibility, elaboration, and originality. To help students develop fluency, a teacher may ask them to write what they hear, think, or feel while listening to music. Flexibility addresses a student's ability to determine musical elements, such as rhythm, melody, dynamics, and emotion. Elaboration is associated with embellishing, expanding, or noticing different combinations of ideas. In this case, a student should determine what they felt or heard when the music changed. Finally, originality is supposed to foster a student's unique ideas in response to a question, problem, or situation.

Larsen and Whitaker (2013) conducted a study aimed at determining how adults without any musical training respond to repeated hearings of music excerpts when asked questions that encourage interpretive responses. Research completed by Larsen and Whitaker includes five categories of responses that emerged: descriptions of musical elements, affective responses (good or bad), extra-musical responses (story and image or

idea with the music) or associations, evaluation or preference, and reflections on task. The total responses for these categories were 34%, 20%, 28%, 9%, and 9%, respectively (Larsen & Whitaker, 2013). Some of the most common phrases used when referring to different aspects of music were the "tempo/speed of the music" and "pitch/tune higher and lower." Participants who were familiar with musical composition gave more detailed descriptions than those who were not. A majority of participants elected to talk about their listening experience and connected their immediate listening to past experiences with specific pieces or with listening to Western art music in general. According to them, an evaluation of research into the musical understanding of adult non-musicians suggests that both intra-musical and extra-musical elements (story and image or ideas about the music) are generated when listening to music.

The challenge for music educators is to provide frequent opportunities for music listening and the development of increased understanding. There are some online music appreciation lesson examples that serve as an introductory tool to provide non-Western art music listeners with preliminary preparation for appreciating Western art music.

Possibilities and Conclusion

These studies have shown that it is possible to introduce non-musicians to the culture of Western art music. Levinson (2004) focused explicitly on construing musical processes to create aspects of narrative. Narrative music is played in films to provide a natural setting and invoke some schematic processing of the film. In these film events, music is performed to align with the outcome. Furthermore, scenes in a film that cannot

be recalled can be made more memorable with background narrative music (Schoen, 2013). As stated, youths listen to trendy music such as rock and popular music, but they tend to show interest in listening to unfamiliar music when they are more established in their lives. Thus, young adults' musical preferences often switch from rock to Western art music once they become professionals (Langmeyer et. al, 2012). For example, Sting from the Police made three albums with an orchestra. Young professionals prefer reflexive (therapeutic) and complex (Western art music and jazz) music, while younger adults prefer emotional (intense and rebellious) music (Langmeyer et. al, 2012). Some adults were never able to study music when they were young. Adult non-Western art music listeners may still be able to appreciate Western art music without any formal musical education using online materials.

Bugos et al. (2009) investigated the effect of weekly online music appreciation podcast episodes on students' academic performance, motivation, and musical preference. This study concluded that weekly podcasts, in addition to traditional lectures and visual materials, were efficient in this regard. The participants of this latter class showed increased motivation, which demonstrates the efficiency of using podcasts as part of the learning process. Hence, audio podcasts are not only convenient for students because they can access them at any time, but they also engage students in their studies (Bugos et al., 2009).

Davenport (2017) gives another successful example of an online music appreciation class. Davenport designed online music appreciation courses for the University of Washington, Tacoma for students who were diverse non-musicians. In

doing so, Davenport demonstrated that online delivery of music appreciation content can provide a solution to pedagogical difficulties. The course was held for a 10-week quarter and included video lectures and quizzes. Some of these students seek more personalized education, which cannot be obtained in the classroom. The online lectures focused on developing listening skills to foster students' abilities to listen to and write about music.

Informal learning through the motivation of online education implies the comprehension of music aesthetics, as well as the permanent practice. Aesthetic knowledge includes conscious music perception and the ability to value learning constructs. In addition, the paraxial approach to building musical awareness includes the combination of mental and practical capacities. Some researchers consider music to be an action not just because of the operational knowledge but due to the essence of music, which lies in human activity. As for the paraxial part (learning with sets of goals) of musical education, its main principle lies in engaging the person's feelings, thoughts, and actions to musical listening skills.

It is arguable that when a person, regardless of musical experiences, is frequently exposed to works from the great composers using online technology, their senses are heightened and become more intuitive. I predicted that non-Western art music listeners would improve in their ability to recognize harmony by being exposed to Western art music tonality. I adopted a guide from Barkley (2009) to help non-musicians expand their listening skills. This online, narrative music listening activity suggests non-Western art music listeners to listen carefully to choose the imaginations that come to mind, choose the emotion that the music evokes, and write down what they hear individually (narrative

stories/conversations). This online activity's multimodality is designed to serve as an introductory tool to provide non-Western art music listeners with preliminary preparation for appreciating Western art music. Online narrative music listening activities offer a promising technology for training complex skills that help humans recognize emotions and stories in Western art music. These activities will help non-Western art music listeners evaluate moods and emotional states such as panic, shock, joy, and anger in Western art music. Consequently, they will likely inject such emotional reactions into the music appreciation process and trained non-Western art music listeners may show more interest in attending Western art music concerts.

Chapter III

PILOT STUDIES

In order to refine the narrative music listening activity, I previously conducted three pilot studies that examined the effectiveness of two educational strategies in increasing non-Western art music listeners' appreciation of Western art music. I first tested the efficacy of a method using graphic notation, and then tested the efficacy of a method using animation and films. Non-traditional visual music notation systems such as graphic notation helps people to imagine new approaches to understand musical sound. Music in drama, such as animation and film music, is narrative music that tells a story. I decided to examine these two to see if non-musicians and people who did not grow up with Western art music showed increased interest in listening to Western art music.

Pilot Study 1: Matching Film Music and Graphic Notation

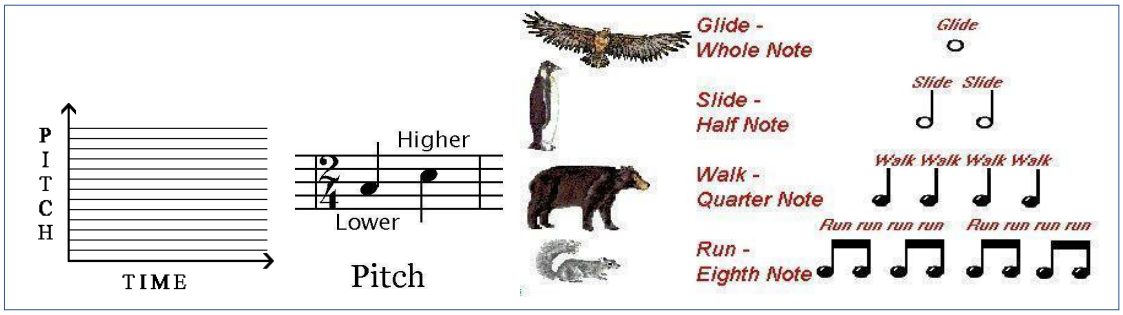
I used a YouTube video of Michael Colgrass (2007) teaching graphic notation in the classroom to test the development of non-musicians' music composition skills. Instead of the traditional Western symbolic notation, Colgrass told his students to use abstract shapes, such as wavy lines and dots, to express musical sounds and shapes. Colgrass then asked the students to perform their written pieces. My research question for this pilot study was the following: "Can students who are unfamiliar with Western art music learn to discriminate between a rhythm and a melody in symphony music by using non-symbolic simplified notation and graphic notation?"

Participants and Materials

I tested 38 students at Teachers College, Columbia University with no musical training to assess the ease with which non-musicians can understand graphic notation. To answer the research question, quantitative data was collected from a music and graphic notation matching test. The study included a slideshow presentation to the entire class with participants, shown to participants to introduce Western symbolic notation for pitch, time and rhythm, and melodic contour (ascending and descending pitches in a melody). I used three images to explain that musical scores have two dimensions: pitch (up and down), which I used arm movements to illustrate; and time (left to right), which is a mathematical proportion in musical time, which I illustrated by using pictures of animals, as shown in Figure 1. Subsequently, I sang and used my arm movements to explain a variety of musical melody line movements and melodic contours. Figure 2 presents the melodic contour names along with their shapes in traditional notation and in graphic notation.

Figure 1

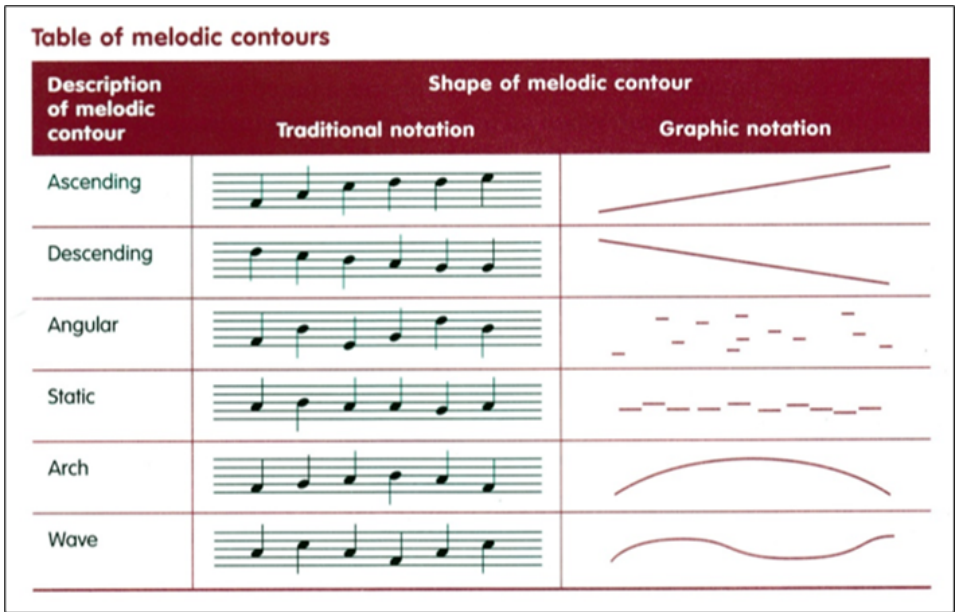
Images Used to Explain Musical Scores



Note: Images from soundpiper.com

Figure 2

Graphic Notation



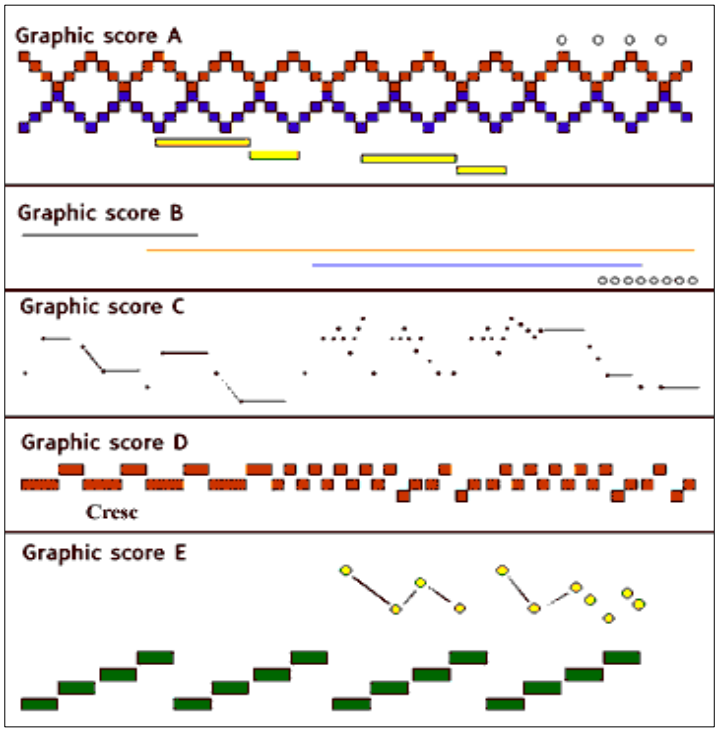
Note: Image from saints10music.weebly.com

Procedure

Following my 15-minute lecture on pitch and time in notation, I tested the participants' ability to read graphic notation with a graphic notation matching test that recapped the lecture material. Music and graphic notations were adapted from graphic score exercises produced by BBC Education. Subsequently, I played excerpts from film music that should have been familiar to the students, and I asked the non-musicians which graphical score matched each piece of music. Figure 3 shows the graphic notations used for the music listening task.

Figure 3

Graphic Notation from ListeningX



Note: Image from BBC iPlayer

I used the following music: *The Shawshank Redemption* – Main Theme (Graphic score E in Figure 3), the *Jaws* theme (Graphic score D in Figure 3), and Bernard Herrmann – *Vertigo Suite (*Graphic score A in Figure 3). Only one student was actively engaged, and the rest could not match the music to its related graphic representation at all.

Results

After the matching activity, I asked the participants to engage in a guided discussion. I had them answer two questions:

Question 1: Did the graphic notation help you understand this symphonic music?

None of the participants answered "yes" to this question. A few female students said that they were not musicians and that they had never understood music notation, although they had learned about it in elementary school. I assumed that they were biased by their experiences with traditional Western art music notation and could not become familiar with the new notation, even when it was simplified.

Question 2: Did the graphic notation help you to remember at least some of the melody?

None of the participants indicated that they could remember at least some of the melody. One male student said that the *Jaws* song is well known and that he therefore did not need graphic notation to remember it. Another male student stated that following pitch was easier than following time. The oldest member of the class said the visual representation of the music was beautiful but distracting.

Discussion and Conclusion

My teacher-directed mode of leading the class was not as successful as I had anticipated it would be. Perhaps it is difficult for beginners to understand the musical elements of pitch and time simultaneously**,** even with graphic notation, which is non-symbolic. As McLachlan et al. (2010) stated, a few training sessions are required to teach graphic notation to non-musicians. The other concern that arose from this experiment was the participants' lack of motivation to learn graphic notation. The students were not passive listeners. It is possible that the graphic notation was too abstract for them, and that they needed additional time to become familiar with it. As such, it may be important

to provide training to non-musicians to help them understand the time and pitch positions in the graphic notation. However, if students are not intrinsically motivated to learn musical graphic notation, teaching it may be less effective.

Pilot Study 2: Recall Test with Animated Notation, Animation, and Film Music

The use of graphic notation was not successful in my first study with the Teachers College students. Next, I wanted to examine the use of animated visual notation, animation, and film in symphony orchestras. There is evidence that the use of Western art music in motion pictures is attracting audiences to symphony music concerts (Passy, 2018). Film and animation music convey the dialogue of the characters and the meaning of the story. Therefore, people may be able to enhance their storytelling using music in connection with audiovisual media. This pilot study was designed to determine if Musical Instrument Digital Interface (MIDI) notation, which is an animated visual notation system, animation (moving arts with characters), and film are valuable tools that can be used to help non-musicians understand, remember, and emotionally connect to Western art music. Participants in Pilot Study 1 were passive listeners. I investigated whether it is possible to teach people to become active listeners of this genre of music through the use of visual aids.

My research questions for Pilot Study 2 were “Can we use visual aids such as animated notations, animations, and films to teach teenagers and young adults who have not grown up with Western art music how to study symphonic music?” and “Can people who are unfamiliar with Western art music learn to discriminate between a rhythm and a

melody in symphonic music by using non-symbolic simplified notation such as animation?"

Participants

The participants were 23 friends of my son's between the ages of 13 and 21 years old and lived on the Upper East Side in New York City. One of the 23 participants had autism spectrum disorder. The participants were from to middle-low- to high-income families of racially diverse ethnicities. I selected participants whose parents had no musical education background, showed no interest in attending a Western art music concert, and agreed that academic subjects were more important than the arts. Therefore, my participants appeared to be from families with almost no interest in music and did not grow up with Western art music. I texted my participants' mothers to obtain their permission for their children to participate in my study online. The participants were asked to watch a music video clip on the New York Philharmonic's website. These participants had shown no interest in attending the concert. The survey questions were presented on the platform SurveyMonkey.

Procedure and Materials

To introduce non-Western art music listeners to becoming active listeners, I created activities in which they actively listened to symphony music to process musical elements (pitch, tempo, and melody). The pilot study involved the following steps:

1. First, I divided a piece of symphony music into segments.
2. Next, I asked students to engage actively with the music (e.g. by humming along with the melody of animated notations, clapping hands to the rhythm of animations, and creating dialogue about the emotions conveyed by film music)
3. Finally, I conducted image-matching tests to determine the extent to which students could remember the segment of symphony music that was presented with visual aids.

I selected symphony music that none of my participants were familiar with. I then divided the music into segments on YouTube. McKinney and Tims (1995) argued that certain musical elements, such as melodic and rhythmic repetitions, melody progression predictability in chord progression, and changes in tempo, are especially effective in stimulating vivid imagery. For this reason, I selected segments of symphony orchestral music that had predictable melodic elements and repeated phrases.

I asked the students to focus on the music in the visual aids. To encourage them to engage actively with the music, I asked them to hum along with the animated notations, clap their hands along with the animations, and create dialogue for the films. After each listening activity, there were image-matching tests to evaluate how much students could remember about the segment of symphony music that was presented to them with the visual aids.

Quiz 1: MIDI Notation

The participants were asked to try to hum the melodies of Song 1, Tchaikovsky's Symphony No. 4, Movement 4, with MIDI animated notation that I created. Figure 4 displays the animated notation of Tchaikovsky's Symphony No. 4, Movement 4.

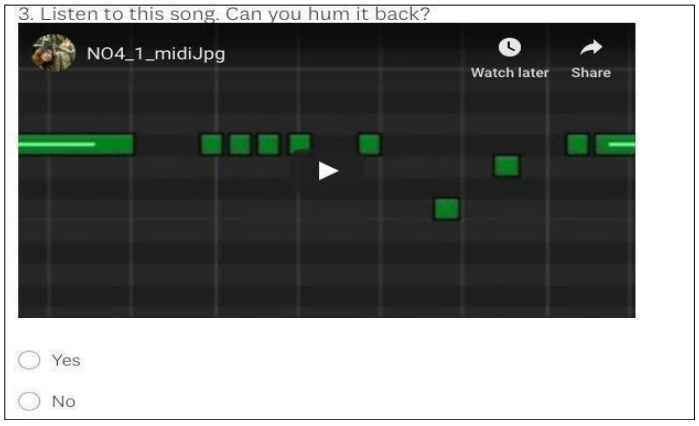
Figure 4

Animated Notation of Tchaikovsky's Symphony No 4, Movement 4

Note: The participants were asked to try humming the melodies of Song 2: Tchaikovsky Symphony No 4, Movement 1 with MIDI animated notation.

Figure 5

Animated Notation of Tchaikovsky's Symphony No 4, Movement 1



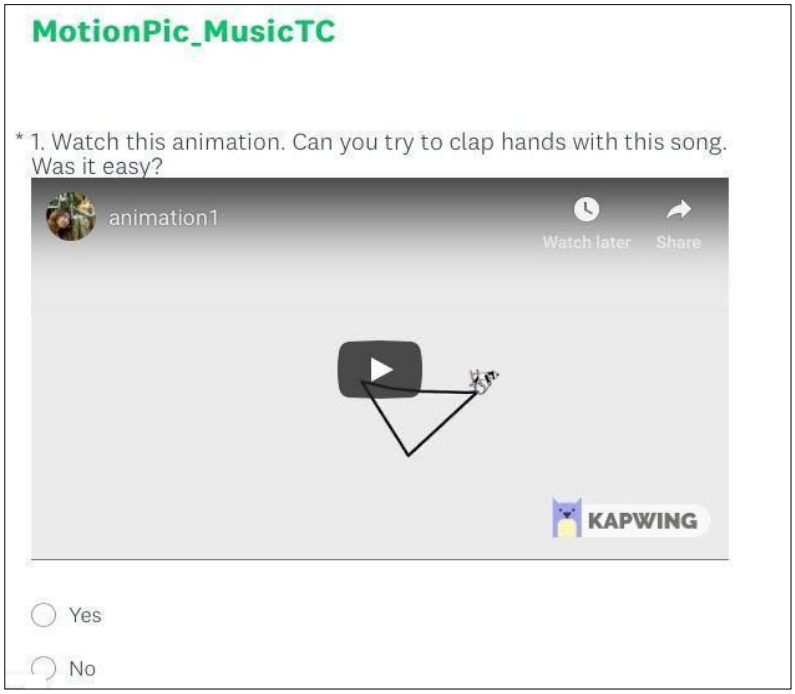
Note: The participants were asked to select which animated notation matched the orchestra clip.

Quiz 2: Animation Created for Symphonic Music

In this quiz, participants were asked to clap the rhythm of the Line Rider animation with “Mountain King.” Figure 6 shows the Line Rider animation. Next, the participants were asked to clap with the rhythm of a Russian cartoon created by Maximov with the orchestral piece “Bolero,” composed by Ravel. Figure 7 shows the animation of “Bolero.” The participants were then asked to select which animation matched up with the orchestra clip.

Figure 6

Line Rider Animation

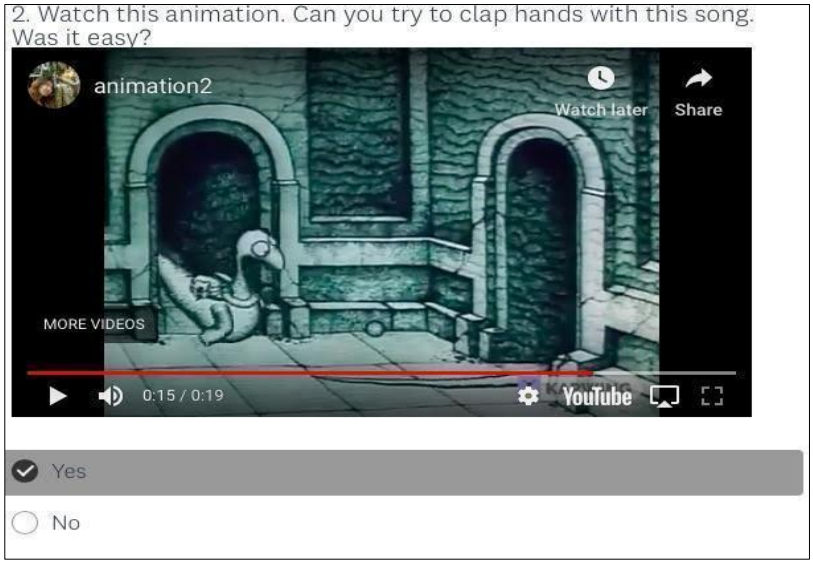


Quiz 3: Symphonic Music for Dramatic Silent Film Scenes

For this quiz, participants were asked to think of dialogue to accompany the scene from the "Ride of the Valkyries" (Wagner, 1856) in the film *Apocalypse Now* by Coppola (1979). Figure 8 shows the image from *Apocalypse Now*. The participants were then asked to think of dialog while watching the *Platoon* music video, "Adagio for Strings" (Barber, 1936). Figure 9 shows the image from the film *Platoon* by Stone (1986). The participants were asked to select which photo matched up with the orchestra clip.

Figure 7

Bolero Animation by Maximov



Quiz Results

The results from the quizzes indicated that the film music and dialogue-matching methods were the most effective of musical related recalling, and that animated notation

was the least effective tool. People often love movie soundtracks, perhaps because the movies affect them emotionally, or perhaps because this music is used for narrative. The participants reported that humming Song 1 was easier than humming Song 2 in the animated notation test. This may have been because Song 1 is a folk song, the melody of which is repetitive, predictable, and easy to remember. I found a 69.57% matching accuracy for the MIDI animated notation test. I found an 86.96% matching accuracy for Line Rider animation. Because the Line Rider animation for "Mountain King" presents vivid down beats by bouncing objects along with its rhythm, the participants performed better when clapping along to this song than when clapping to "Bolero," which had minimal animation. Both film clips used in the film test were about war and featured helicopters. The actors did not speak in either clip and the music was used as the dialogue. The participants were asked to select dialogue that they think fit well with the soundtrack music. One participant, who had autism, chose an unrelated dialogue. I found a 91.30% matching accuracy for "Adagio for Strings."

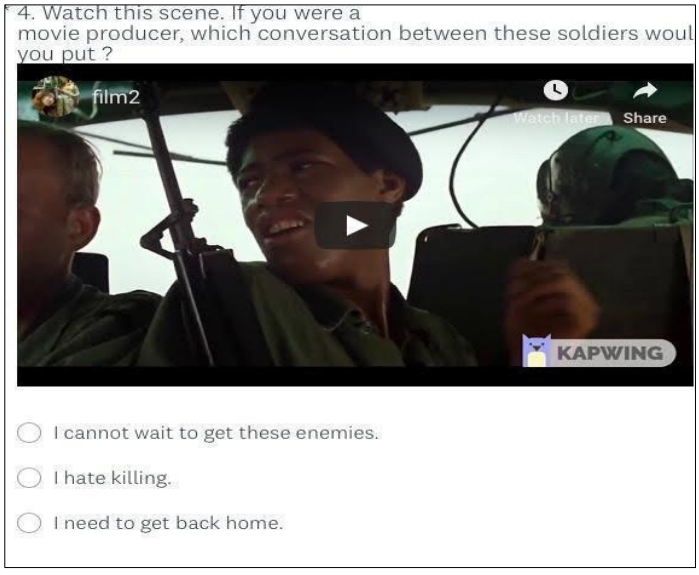
Discussion and Conclusion

The participants from these pilot studies who did not grow up with Western art music were able to recall melodies from symphony music by using visual imagery. My Pilot Study 2 results indicated that melodic and rhythmic repetition and melodic and harmonic predictability are effective at evoking mental images through music. Visual imagery helps to evoke images while music flows into the brain (Buonviri, 2010).

Active musical listening is a combination of perception (noticing) and reaction (feeling), which collectively constitute the music listening experience (Reimer, 2003). I asked the parents of several of the children who had participated in my studies whether their children were still humming the songs that they were exposed to in the quizzes. I was pleased when many parents replied in the affirmative. This suggests that their children had been listening and were able to recall the unfamiliar style of music. In addition, individuals do not need musical training to complete the music processing procedure; the brain often has the capacity to do this subconsciously (Collins, 2013). Two parents from Pilot 2 told me that the Western art music audience would be larger if children were given the opportunity to attend music appreciation classes. I surmised that playful and joyful musicking experiences help non-musicians develop their musical understanding and listening concentration.

Figure 8

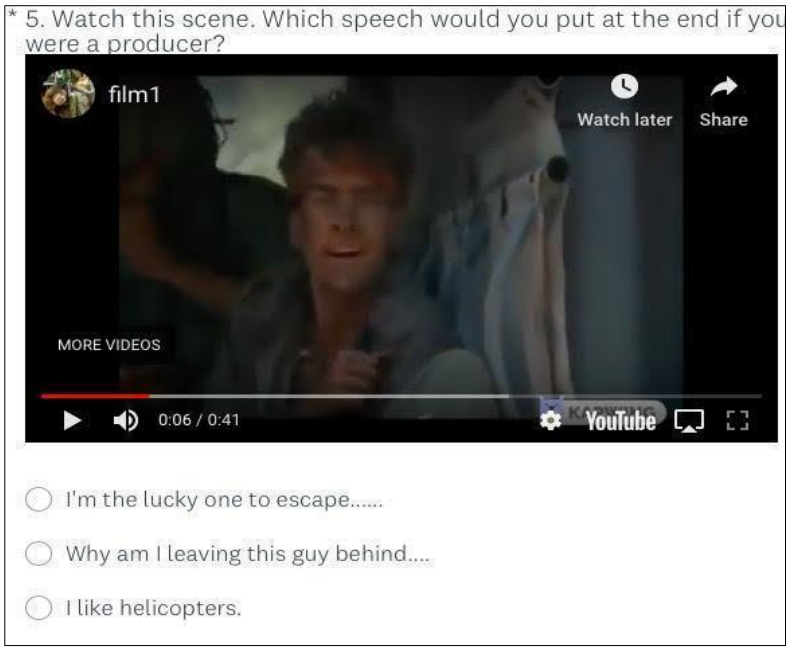
Apocalypse Now



Small (1987, p. 50) wrote that we stress learning about these *objects d'art* rather than concentrating on the "musicking." Learning about, listening to, analyzing, and determining the "value or worth" of these music objects has grown in the rhetoric of music education to be superior in importance to the values of "musicking" (Roberts, 1989). Liatz (2003) noted that perceiving pitch, rhythm, melody, and harmony is essential for listening to music attentively. In popular music, the melody is easy to find, because the lead singer of the band usually sings the melody. In most symphony music, the melody is more difficult to identify, and is therefore often difficult for people to memorize.

Figure 9

Platoon



Young adults who are unfamiliar with Western art music need more opportunities to develop their musical perception abilities. Eisner (2002) suggested that rather than instructing students on how to analyze music, they should be allowed to use their imagination and creativity during music-listening activities. By becoming trained music listeners, students will be able to associate the musical messages with their own life stories (Reimer, 2003). Instrumental music, such as symphony music, is indirect and often less attractive than popular music, especially to those of younger generations, according to Dare (2017). Dare stated that, "the only way to make the audience younger… is to bring the cultural changes into classical music."

Pilot Study 3: Video Quiz

As an extension of Pilot 2, I designed a quiz game tailored to help teach non-musicians to identify the musical emotion of Western art music using the CAM (audiovisual structural overlap) of the music. My research question for this pilot study was as follows: "Can a video quiz for Western art music appreciation work as a music emotion recognition training tool?"

Participants and Materials

I recruited three participants, ranging in age from 20 to 40 with no musical training. I created a video quiz activity using GIF animated images and audio excerpts from Ludwig van Beethoven's Third Symphony, second movement with a fugue technique that includes two or more melodic lines get played at the same time. I have listed the emotional scene of dialogue where that players identify their feeling. The

experiment was a single-player experience consisting of a game, a training game, and a quiz game that supported non-musicians' music listening and analysis skills to allow them to successfully translate the feeling of a piece of music.

Procedure

In the game, the player is a composer who is trying to win the Oscar for best music. The player logs in and must answer multiple questions embedded in an online interactive video environment. Thus, the player must understand the feelings elicited by the music, which was the Beethoven piece mentioned above. Then, the player must match the emotional scene of dialogue I picked that fits with the narrative music. Their response latency is timed. The player is expected to recognize the emotional responses that are associated with the music. Ewer (2009) stated that major chords with strong tonality give a pleasant mood compared to minor chords, often associated with sadder moods. In this game, if the player chooses the emotional scene that describes the moods that fit the music, when the minor key they win the Oscar. The players were expected to choose a negative mood for the melodic minor scale and the harmonic minor scale music excerpt and a positive mood for the melodic major scale and the harmonic major scale music excerpt.

As I mentioned, this assessment game attempts to make people interpret the most commonly agreed upon meaning behind a piece of music. The most commonly agreed upon meaning is subjective, as people interpret music differently. In this game, however, there were only a few scenes to choose for each music, which, in this scenario, confusion

occurs when none of the scenes I presented do fit the player's mood. Figure 10 displays the game flow for the narrative music mood matching task.

Quiz Results

All three of the participants chose answers randomly. One chose answers without listening to the music. The participants showed some frustration with the first question. After they had completed the quiz, I asked the participants to engage in a guided discussion of a topic. What follows is a set of questions with summaries of respondents' answers:

Did you enjoy selecting the emotional vocabulary that fit with the music?

The word that participants used in their responses most often was "difficult." They reported that they did not understand how to make their decisions, because listening to the music did not elicit (enough) emotion for them. It was difficult for the participants to identify the main melody.

Could you come up with a narrative story based on this gaming experience?

Two of the participants said "yes," but their narrative stories did not match with their emotional scene. The other participant said that he could not devise any story based on the music.

Was the selected music easy to listen to?

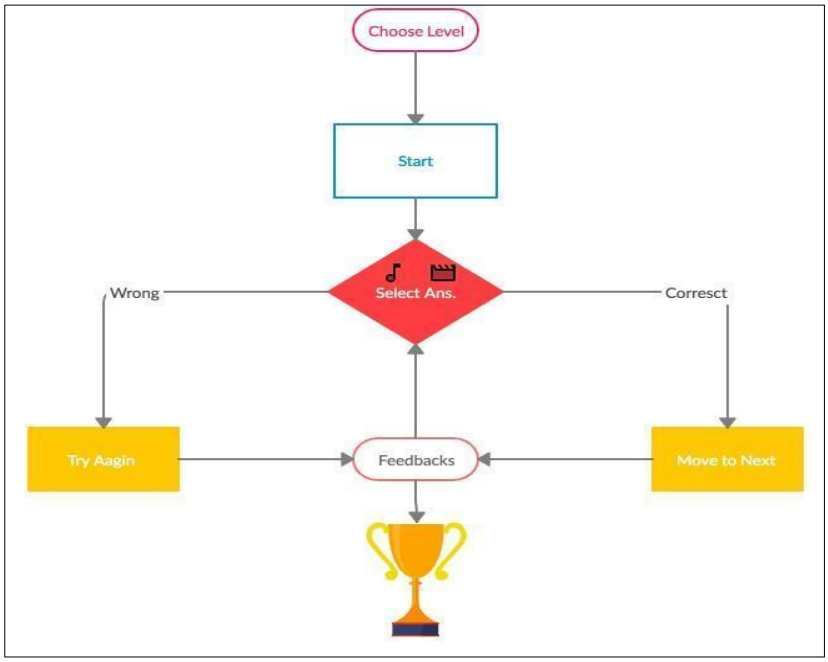
None of the participants responded "yes." They all said that the music was beautiful. One said that the music was complicated.

Discussion and Conclusion

My game design was not successful, which I did not expect. One problem was the numbers of the matching scenes. Because people interpret music differently, my participants needed to have more emotional vocabulary selections to choose from after listening to the music. The second obstacle to non-musicians' enjoyment of this game was the harmony in Western art music. The non-musicians were unable to identify the main melody in the Beethoven piece. The music I selected for this game had different subjects built up simultaneously by multiple instruments.

Figure 10

Game Flow for Narrative Music Matching Skill



As I mentioned in the literature review, some individuals in modern society are not exposed to Western art music. As such, visual aids can serve as effective tools for training non-musicians to appreciate this musical genre, Western art music. Cañas and Novak (2004) argued that images should be included in mind maps. Therefore, information recorded visually as well as aurally, such as music, is memorable. The incorporation of visual aids into symphony music listening helped listeners create visual/spatial and auditory encoding.

Chapter IV

METHODS

Introduction

I envision a place where non-Western art music listeners can spend some time familiarizing themselves with the complex harmonies of Western art music, which may enhance their understanding of emotion in this music. This dissertation study examined three groups, an absolute-music listening group, a program-music listening group, and a polyphonic-texture listening group. All participants in the three groups took a pretest, experienced the treatment, and took a posttest. The treatment section, a creative listening guide, was when participants were introduced to a creative listening technique. Participants were then asked to write about the music they heard before and after the narrative music listening activity.

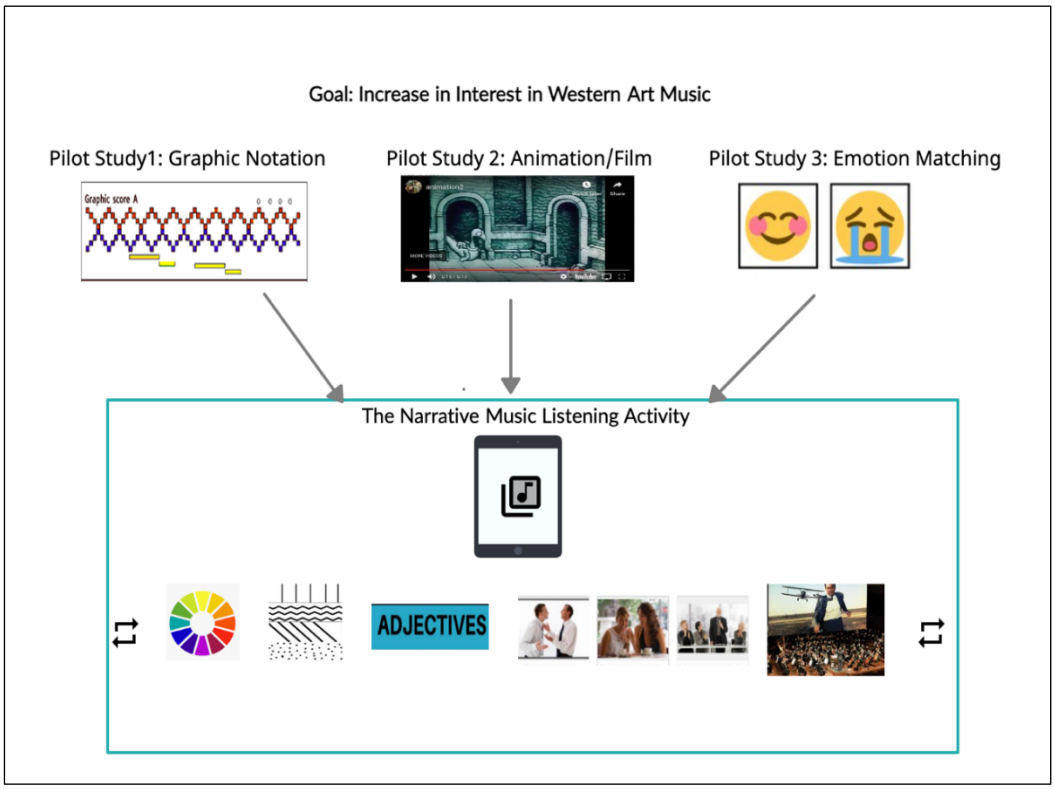
The Central Research Study

My pilot studies and literature review prompted the research questions for this dissertation. The main research question of this study is as follows: “Can narrative music listening activity help non-Western art music listeners discover emotional responses to Western art music?” The participants generally did not choose to listen to this type of music for leisure. This research involved online activity designing, developing, and evaluating an activity for an online narrative music listening experience. From this narrative music listening activity, non-Western art music listeners in this study were

asked to construct stories from their music listening experiences. The purpose of this study was to estimate the causal impact of a music listening treatment on non-Western art music listeners with low interest in attending Western art music concerts. I created an intervention activity for the treatment group that may be used to improve motivation in attending a Western art music concert, and it also may help non-Western art music listeners to gain the skill to find narrative while listening to Western art music. My pretest–treatment–posttest design determined the effect of a treatment on non-Western art music listeners.

Figure 11

Design Flow



In this study, measurements were taken both before and after the narrative music listening activity to determine whether the treatment affected the group. This study sought to answer additional questions, as follows:

Attitude:

1. Does a narrative-music listening activity help motivate non-Western art music listeners to attend Western art music concerts?

Listening Skill:

2. Do non-Western art music listeners with better aural memory show more interest in attending Western art music concerts following the narrative-music listening activity?
3. Do non-Western art music listeners who recognized major/minor harmony show increased interest in attending a Western art music concert following the narrative-music listening activity?
4. Do analytical thinkers show increased interest in attending a Western art music concert after the narrative-music listening activity? (a scale range was used for my participants to answer if they are more creative thinkers or more analytical thinkers)
5. Do non-Western art music listeners notice changes in music used in the narrative-music listening activity?
6. Do narrative music listening activities help non-Western art music listeners to discover new ways to appreciate Western art music?

Types of Music:

7. Will the narrative-music listening activity using programmatic music increase non-Western art music listeners' engagement emotionally and cognitively?
8. Will non-Western art music listeners write detailed responses to Western art music after the narrative-music listening activity introducing polyphonic texture?

Then, my main question was: Do narrative listening activities help non-musicians express emotional responses to Western art music?

I divided my participants into three groups in order to address the abovementioned questions. The first group listened to absolute music, which does not necessarily represent concrete images or stories. The second group listened to programmatic music. Western art music compositions that are often associated with a particular narrative or events are referred to as programmatic music (Walton, 1994). Programmatic music is likely to evoke particular feelings and associations because it intends to tell a story. The third group listened to music with polyphonic texture, which features multiple independent layers of melodies simultaneously along with the main melody. All three groups were exposed to a sequence of pretest–treatment–posttest. I expected to find that all three groups would show an increased appreciation for Western art music due to being familiarized with this genre of music during the treatment section.

This study's treatment session did not include lessons or training. Instead, it encouraged the study participants to imagine a visual image and its corresponding emotion to discover the narratives that come to mind from their music listening. As

mentioned previously, exposure to music can lead to implicit knowledge—or knowledge learned through experiences in an incidental manner—of the music's structure (Jin et al., 2008). If non-Western art music listeners in this study developed implicit learning, their learning occurred without conscious effort through passive exposure. Thus, I tested how creative listening skills may foster non-Western art music listeners' implicit learning of music listening. Newman, an American film composer, stated, "Audiences are looking for 'events' that combine music and visual spectacle" (Burlingame, 2015). I expected my participants to develop the habit of creating imaginary events in music listening activities. Implicit learning is the process whereby knowledge about a complex stimulus domain is largely acquired without involvement of top-down thinking or conscious control (Reber, 1989).

Because this study's creative listening treatment allowed participants to make their own decisions and discover what is happening step by step, the decision-making process was reinforced, thus helping them become creative music listeners. In addition, this online, narrative music listening activity aimed to have participants make sense of what they feel on their own time, and thus experience the consequences of their decisions and enjoy an enhanced emotion recognition experience through reflection. By completing this activity, participants may have appreciated this genre of music more and may be more interested in attending live Western art music concerts.

This online activity used audiovisual multimodal learning methods, which offered participants new skills to make emotional connections between Western art music and the new culture. This study's participants needed to be active listeners in order to recognize

emotions in Western art music, discriminate between different emotions, and label them appropriately in order to appreciate this musical genre. Western art music performers typically expect the audience to sit in silence despite witnessing impressive and exciting acts. However, younger generations are used to moving their bodies to popular music and may thus find it challenging to become devotees to Western art music. In this narrative music listening activity, participants learn to be quiet yet activate their attention creatively by recognizing emotion, imagination, and a story while listening to Western art music, which they can also do at live Western art music concerts. Therefore, this emotional recognition education is designed to help non-musicians foster excitement about Western art music. If this excitement is fostered, Western art music can offer an interactive and stimulating experience to music lovers.

Participants

I recruited a sample group of 114 participants, ranging in age from 20 to 40 years old. One group, consisting of 55 participants, took part in my online narrative music activity using absolute music (represents no narration). A second 32 participants took part in my narrative music activity using programmatic music (represents some narration). Finally, 27 participants took part in my polyphonic texture (two or more independent layers played simultaneously with the main melody) narrative music activity.

I recruited the sample for this study using a non-random snowball sampling strategy. Specifically, I used word-of-mouth, wherein I asked the family and friends of people who mostly lived in New York City if they were interested in volunteering their

time to participate in my study. The participants in my study were predominantly from New York's Upper East Side, TriBeCa, and the Upper West Side or had families and friends from these areas. According to the Statistical Atlas, median household income ranged from $130.3K to $193.9K. Snowball sampling is useful for recruiting difficult-to-reach samples. This pretest–posttest design was quasi-experimental, which means that participants were not assigned randomly to different conditions. This was appropriate for the present study because my target sample for my students was non-Western art music listeners including those who did not have access to a formal music education. In the discussion chapter, I focused on analyzing the results from the group of non-Western art music listeners volunteers who stated that they were not interested in Western art music at present.

For this study, I decided to target young professionals for my sample. Interactive brain training activities are popular among those in middle and older adulthood. In 2017, 20% of online gamers worldwide were males between the ages of 21 and 35, and 13 percent were females between 36 and 50 years old according to Static's eSports marketer Christina Gough (2019). As a result of brain training games, adults noted that they felt sharper (Arshad et al., 2019) and experienced improved memory (Whitbourne et al., 2013). In addition, this age group, which often includes parents and teachers, has a large impact on a child's development occurring during adolescence, at a median age of 12 years old (Worthman et al., 2016). The target audience consisted of those adults, ranging in age from 20 to 40 years old, who were in the process of forming their careers and families. I chose young professionals who stated that they were non-musicians. I

anticipated that the online narrative music listening activity I developed would help my sample of young professional groups feel more comfortable with and develop a greater appreciation for Western art music. Online skill-training programs are becoming increasingly popular among those in middle and older adulthood. For example, Bejeweled by PopCap is a brain training game that this age group plays. Thus, I intended for this online narrative music listening activity to attract young professionals.

Visual and Audio Materials

I used GIFs (Graphics Interchange Format) for the absolute music listening group. I made video clips using software called Video Editor Plus Project. Weimer et al. (2012) found that these images must be simple because people need to comprehend them with ease. For the programmatic music group, I used a still image of an orchestra. For the programmatic music group, I used videos of ballet from Metropolitan Opera's *Samson and Delilah* by Camille Saint-Saëns (1983). Narrative dance choreographed in ballet tells a story through movement, thus providing a narrative. For the polyphonic texture analysis group, I used a 16-second clip from the film *Amadeus* by Milos Forman (1984).

All excerpts that the participants heard came from Western art music and film music pieces. I used Movavi Video Editor Plus to create audio clips. First, I chose Beethoven's Symphony No. 3, 2nd movement (1805) which can be considered a piece of absolute music that gradually builds in the complexity of its harmony. This absolute music in the activity could be challenging because it does not represent a story, an idea, or anything beyond the music itself. Each music excerpt was unique, and the participants

selected the color that came to mind, the line shape that came to mind, the emotions and feelings that were evoked, and the conversation style based on the piece.

Second, for the programmatic music group, I picked "Bacchanale," from Saint-Saëns's *Samson and Delilah* (1877), which attempted to depict an extra-musical scene of Biblical narrative. In this step, I tested to see how much the extra-musical elements in the programmatic music resulted in positive effects on my participants' active listening responses.

Third, I used Mozart's Requiem in D Minor (1791), which includes polyphonic texture where the harmonic and independent melodies get introduced to the audiences. This online narrative music listening activity was designed to identify similarities between music excerpts from Western art music and modern film music compositions. For the absolute music listening group, I used film music from *Batman: The Dark Knight* by Hans Zimmer (2008), *Kraken Theme* by Hans Zimmer (2006), *Inception* by Hans Zimmer (2010), and *Left Behind* by Secession Studios (2015). For the absolute-music portion, I used film music. For the program-music listening group, I used film music from *David and Bathsheba* by Alfred Newman (1951), *Lawrence of Arabia* by Maurice Jarre (1962). For the polyphonic-texture group, I used individual voice lines from the film *Amadeus* (1984) taken from "Confutatis" in Mozart's Requiem (1791).

Conceptual Framework.

In this study, I attempted to contribute to participants' episodic and implicit memories. This online activity for creative music listening guided participants to turn Western art music, which is often abstract, into narrative music (music that tells a story).

According to Zander (2008), episodic memory enables conscious recollection of stories in the online lesson and binds the self to reality. Zander introduced audiences to episodic memory using music and emotions. He told his audiences to let the music take hold of them and to embrace the emotions and experience the music coaxed out of their memories. When a memory is evoked, emotions that are attached to that particular memory are also elicited.

Thus, participants may develop sympathy and emotional understanding by actively listening to Western art music. This online narrative music activity is meant to improve participants' understanding and appreciation of Western art music through the development of creative skills for listening and responding to this genre of music. Offline, participants may recognize the similar style of music in this lesson. They may hear the music on the radio or at a cafe, and music may cause memory recall. Through music listening exposure, it is possible to assess the participants' ability to experience emotions and habitually create imagery based on the music they have heard. According to Duhigg (2012), building a habit loop takes four steps: cue, craving, response, and reward. The example steps of having a creative music listening habit are listed as follows:

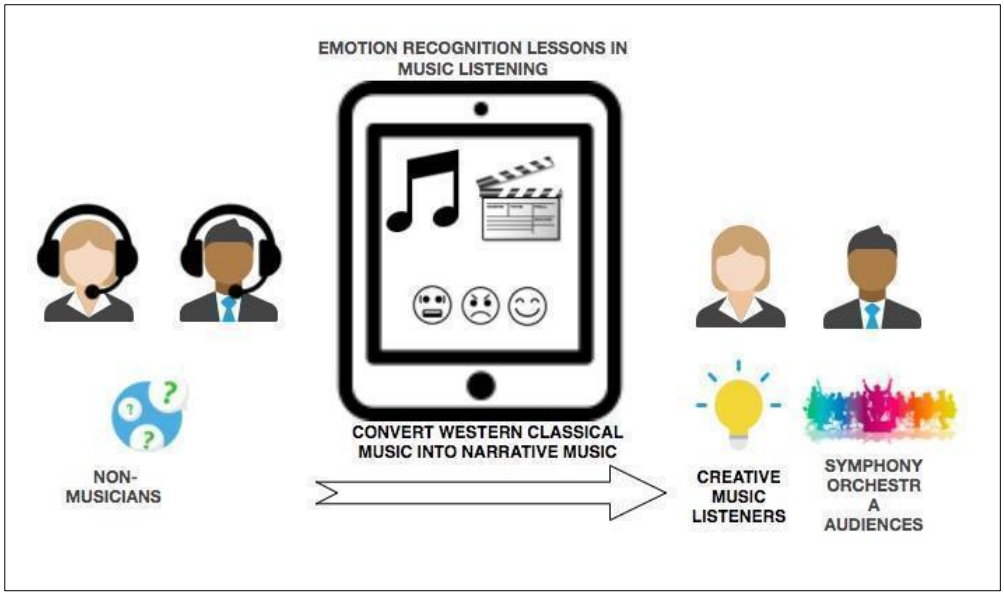
1. Problem phase Cue: A non-Western art music listener hears a Western art music piece used in a commercial.
2. Problem Phase Craving: Find the same music in the narrative musical listening activity program.
3. Solution Phase Response: Find emotional responses from the music.

4. Solution Phase Reward: Take a music appreciation class. Attend a concert to listen to live music.

Providing online narrative music listening activities can lead non-musicians to forming a new habit by repeating this rewarding loop. Figure 12 below shows the conceptual framework of the online narrative music listening activity.

Figure 12

Conceptual Framework and How Narrative Music Activity Changes Music Listening



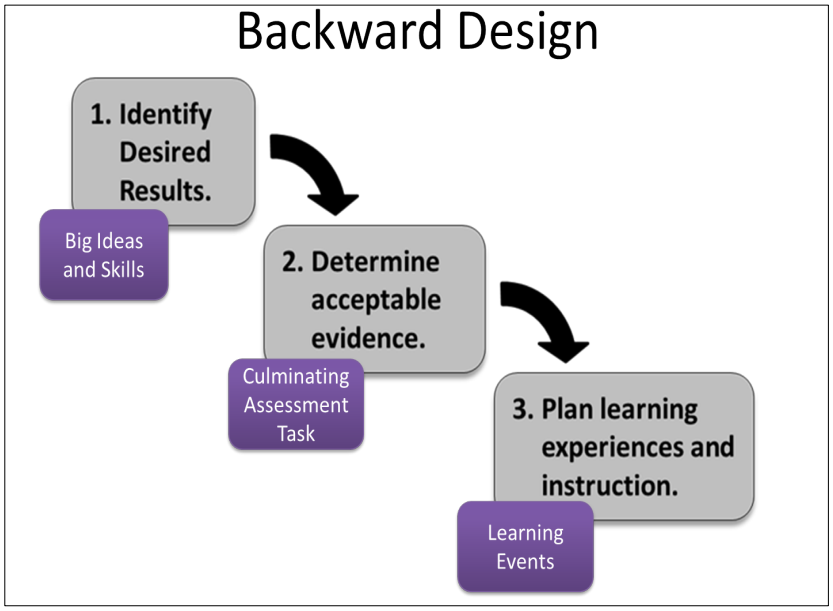
Frameworks: Backward Course Design

This research project included designing, developing, and evaluating narrative music listening activities which may help non-Western art music listeners discover emotional responses to Western art music. I focused on the backward design method of curriculum planning, which focuses primarily on student learning and understanding. The backward design approach consists of three phases: identify the desired outcomes,

determine the acceptable evidence, and plan the learning experience and instruction (Roth, 2007). Backward design serves as a conceptual map for planning or revising creative listening activities and makes it simple to adapt or combine new activities as needed. Figure 13 illustrates the stages of backward design.

Figure 13

Stages of Backward Design



I expected my participants to be able to experience an emotional response by listening to Western art music. By the end of the experiment, my participants should have obtained some skills in analyzing music, understood the basics of harmony, and/or developed the capacity to vocalize the emotions that listening to the Western art music evokes. Non-musicians often have difficulty decoding harmony, which is the key technique that composers use to express emotion, especially in Western art music. Thus,

in this study, I used the designs of emotional recognition games. My Pilot Study 3 was not successful in using the emotion recognition game because participants were not pleased with there being right/wrong answers. Therefore, I revised the desired outcomes in this study, such that I evaluated with the pretest-treatment-posttest activity with multiple choices without correct or wrong answers.

Data Set 1: Quantitative and Qualitative Data for Written Responses

Before and after this online music listening activity, participants from all three groups (absolute, program, polyphonic texture) were asked to write about the music that style was similar to the music excerpts used in the treatment section. The participants' task in this assessment was to create a meaningful story from the music. Eisner (2002) suggested that rather than explicitly being taught the skill of music analysis, students need to let their imaginations fly and allow their creative faculties to advance. This kind of music experience is reflective of instinctive behavior. Thus, the experience from this online music listening activity should help participants verbalize their thoughts, emotions, and imaginative stories with the music, followed by responses about the musical materials, such as tempo, tone, and mood changes.

I designed and built rubrics that were informed by Kratus's (2017) music journal studies. Specifically, Kratus examined various approaches to use music listening journals in teaching music listening by increasing a student's individual and diverse ways of listening. Kratus suggested that concepts such as fluency (write about things they hear, think, or feel while listening to music), flexibility (musical elements associated with

emotion), elaboration (what they feel or hear when the music changes), and originality (create unique ideas in response to a question, problem, or situation) can teach students creative listening, which offers various advantages.

In my study, the written documents were coded with fluency and flexibility. In my questionnaire, I encouraged the participants to write their own emotions, thoughts, and storylines that went with the music. I first tested this with absolute music, and then with programmatic music with a programmatic genre that has been used in film, television, theater, and ballet music. Questions included the following:

1. “What kind of emotion does this music evoke?”
2. “Try to add a descriptive title or add dialogue to this music.”
3. “How does the story develop and change?”
4. “What have you learned by listening to Western art music today?”

The rubric shown in Table 1 was used to evaluate this music listening training activity. I had one independent evaluator with experience in music education to help with coding the statements and categories of responses. I have shown a few responses with this evaluator and compared her scoring with my scoring. The top row shows the questions, while the columns on the left show the student’s performance levels.

To compare the written responses from three groups, I have analyzed written responses qualitatively. Qualitative data allows us to understand each group's unique quality and recognize each group's patterns. I used Survey Monkey’s text analytics software to create word clouds to find the words that contrast with each other.

My narrative music listening activity built imaginary worlds in participants' minds as a result of listening to music, which thus turned art music into narrative music. I expected my results from the pretest to be different from the posttest in this scenario, as this online narrative music listening activity introduced these musical topics to the participants.

Table 1

Rubric for Pretest Music Listening Writing Responses

	Excellent score: 2	**Ok score: 1**	**Not fine score: 0**
Play Brahms' Symphony. Q: What kind of emotions does this music evoke? What musical elements evoked specific emotion?	Address Fluency (write about things they hear, think, or feel). AND Address Flexibility (musical elements associated with emotion).	Only address Fluency (write about things they hear, think, or feel). OR Only address Flexibility (musical elements associated with emotion).	Try not to address.

Table 2

Rubric for Posttest Music Listening Writing Responses

	Excellent score: 2	**Ok score: 1**	**Not fine score: 0**
Play Brahms' Symphony. Q: What kind of emotions does this music evoke? What musical elements evoked specific emotion?	Address Fluency (write about things they hear, think, or feel). AND Address Flexibility (musical elements associated with emotion).	Only address Fluency (write about things they hear, think, or feel). OR Only address Flexibility (musical elements associated with emotion).	Try not to address.

Table 3

Rubric for Posttest Music Learning Responses

	Excellent score: 2	**Ok score: 1**	**Not fine score: 0**
Q: What have you learned by listening to Western art music today?	Addresses skills of Focusing, Interpreting, and Reflecting that helps to get more out of what he/she hears.	Address one or two from Focusing, Interpreting, and Reflecting	Not try to address.

Table 4

Rubric for Vocabulary Counts Used in Music Listening Written Responses

	Excellent score: 3	**Great score: 2**	**Ok score: 1**	**Not fine score: 0**
Q: Brahms' Symphony. Then asked to respond what kind of emotions does this music evoke? What musical elements evoked specific emotion? Try to add a descriptive title.	Address Fluency (write about things they hear, think, or feel). AND Address Flexibility (musical elements associated with emotion). With multiple vocabularies they learned in the activity	Address Fluency (write about things they hear, think, or feel). AND Address Flexibility (musical elements associated with emotion). With limited vocabulary	Only address Fluency (write about things they hear, think, or feel). OR Only address Flexibility (musical elements associated with emotion).	Not try to address.

Data Set 2: Likert Scale

To be able to appreciate Western art music, new audiences need to have a positive attitude towards learning. Participants' motivation to attend a Western art music concert was assessed via a motivation scale. I collected the data from all three groups (absolute, program, polyphonic texture) before the treatment and after the treatment. I examined whether my participants' attitudes toward classical music listening had changed after the treatment. This instrument included a Likert-type scale to assess whether test-takers showed interest in attending Western art music concerts out of curiosity. The respondents

specified their level of agreement to a statement on a 7-point scale: (1) *strongly not interested*, (2) *not interested*, (3) *somewhat not interested*, (4) *neither interested nor not interested*, (5) *somewhat interested*, (6) *interested*, or (7) *strongly interested*. Participants who indicated strongly not interested, not interested, somewhat not interested, and neither interested nor not interested in the pretest Likert scale were placed inside a low interest level group. The differences between the pretest and posttest results were compared using a paired t-test. Then, I ran a two-way ANOVA to test the main effects and interactions of two independent variables, first, interest level memories as related to additional research question #2 and second, aural memory.

Procedures

For this online music listening activity, the participants went to the SurveyMonkey weblink and tried to gain skill in emotional responses to Western art music. All three groups undertook the same procedure, and in this chapter, I will focus on the procedure for the absolute-music group.

Pretest Procedure for the Absolute-Music Group

The participants started at the pretest page. They were first asked to identify their thinking style. A scale range was used for my participants to answer if they are more creative thinkers or more analytical thinkers. They were asked whether they were interested in attending a Western art music concert. They heard two versions—one in a major key and the other in a minor key—of "Mary had a Little Lamb" played on a piano and were asked which version sounded sad. Most of the time, music in a major key is

judged as happy, while minor-key music is considered sad (Answer Drive, 2019) due to the dissonant key relationships. In addition, participants listened to one absolute Western art music excerpt composed by Johannes Brahms (Brahms' Symphony #4 in E minor, Op. 98). Participants were then asked to explain what kind of emotions, thoughts, and imaginary stories were evoked by listening to this piece.

Treatment Procedure in the Absolute Group

Next, participants moved to the treatment page, where narrative music listening activities took place. Active music listening was a creative activity in that the listener constructed a uniquely personal musical experience. My participants needed to be analytical thinkers to discover extra-musical aspects inside musical forms. Before thinking creatively about the music they listened to, they first had to be able to understand it. This required the ability to carefully examine various components of the music. By thinking creatively, they set aside any assumptions or biases they may have had and formed something new from what was presented. The participants were asked to imagine a visual image and its corresponding emotion. In addition, they were asked to imagine the stories that came to mind while listening. Figure 14 shows images from the absolute-music listening activity.

The participants listened to four musical excerpts from Ludwig van Beethoven's Symphony No. 3 in E-Flat Major, Op. 55, II. These musical excerpts were similar to the Brahms composition used in the pretest because Brahms was deeply influenced by Beethoven (Swafford, 1999). Participants needed to understand feelings that were elicited by the excerpts, and then the participants had to first choose the color that came to mind,

the shape of line that came to mind, and emotion that each excerpt evoked. Second, the adjectives participants could choose from came from Hevner's (1936) categorization of emotions: the adjective circle in which Hevner assumed some associations between musical parameters and emotion. Each question contained a list, and participants were expected to experience instant emotional responses that were associated with the music. In a study by Boltz et al. (2009), participants were required to circle the randomly arranged adjectives that best describes the set of stimuli (music) they heard. Professor R. Williams gave me personal advice:

> When teaching harmony (major and/or minor chords), perhaps hearing related degrees of colors and visual tension (lines and dots) might help, for example, brighter and darker. The tension that is created by the tempo of the harmonic and rhythmic progression, sometimes, helps when identifying specific chords. (personal communication, July 23, 2020)

The participants reviewed the elements of music (rhythm, melody, harmony, tonality, and timbre) to reflect the mood of the music. Ciuha et al. (2010) described the color visualization of music that connects musical harmonies to related colors in the color spectrum. Warner (2019) suggested using lines and dots to represent pitches in the form of small symbols. This may be an easy way of notating musical elements such as pitch and duration, texture, and tone color. Third, my participants were asked whether any stories/conversations came to mind from their listening and what type of conversations these were. They then selected from one of four types of conversation. Angel (2016) classified conversations into four major categories. The first type of conversation is debate, which is described as a "competitive, two-way conversation." Accordingly, the goal of this type of conversation is to win an argument or persuade the addressee to adopt

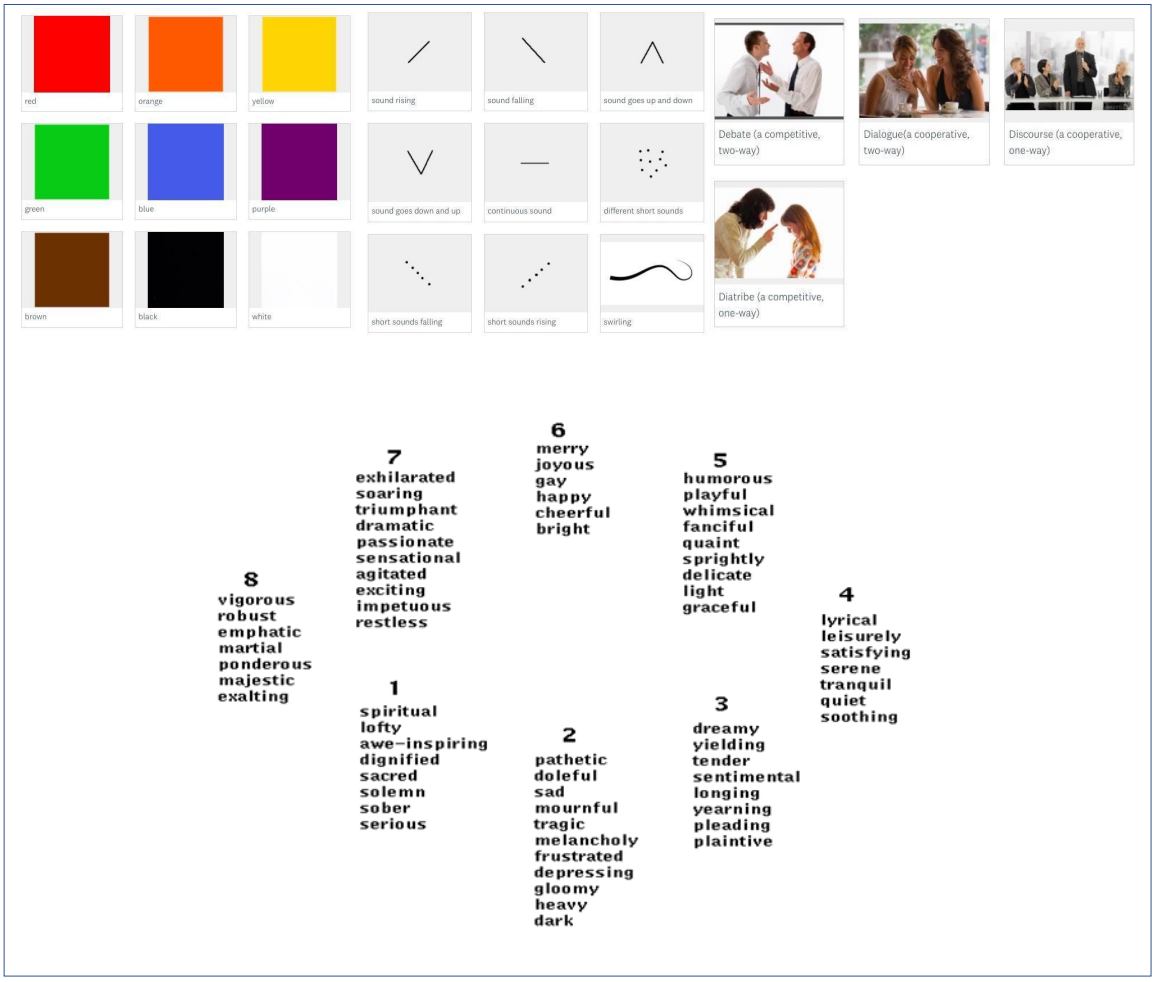
a particular idea. The second type is termed dialogue, which is defined as “a cooperative, two-way conversation” (Angel, 2016). In this case, the goal of both participants is to collaboratively exchange information and develop a symbiotic relationship with one another. The third type is discourse, a one-way conversation (Angel, 2016). In this type, the speaker’s aim is to provide information without getting feedback from the listener. The fourth is a diatribe, which is a one-way conversation that has almost the same objective as the first type: inspiring others who have different perspectives to adopt viewpoints similar to the speaker’s (Angel, 2016). The participants were asked to think of an orchestral composition that had the flute player playing one melody, the cello playing a rhythmic part, and the trombonist playing yet a different melody. Participants needed to imagine a conversation between musical instruments when they played multiple notes simultaneously.

The participants then listened to one film music for each music excerpt. They were asked to try to find the similarities between Beethoven’s excerpt and the film music. For each of Beethoven’s excerpts, I selected matching film music that contained musical elements (rhythm, melody, harmony, tonality, and timbre) that were similar to those in the excerpt. The participants were expected to recognize some of the elements of music (rhythm, melody, harmony, tonality, and timbre) and thus the similar mood of these two music pieces. Next, the participants received an explanation of the similarities. At the end of this treatment page, the video provided a small amount of information about the composer’s personal life as minibiographies of composers can help participants connect

with the musical stories. Participants repeated this activity four times using four different musical excerpts from this music.

Figure 14

Images from the Absolute Music Listening Activity



Note. Hevner's (1936) adjectives are arranged into eight groups.

Posttest Procedure for the Absolute-Music Group

After completing the narrative music listening activity on the treatment page, participants listened to the same music they had heard during the pretest to evaluate their music recognition aural memory. I assessed whether the participants who were asked to listen to absolute music without narrative excerpts had different levels of aural memory on average, compared to those who were asked to listen to programmatic music with narrative excerpts. I also examined how the extra-musical elements in programmatic music impacted participants' memories of the music they heard. After this, participants were told to listen to one Western art music excerpt composed by Brahms (Symphony No. 3 in F Major, Op. 90: III.) and then asked to explain what kind of emotion, imagination, and imaginary story they had heard. Thus, the posttest page was used to examine the effects of learning on the participants and whether they had made progress. If the participants did not demonstrate any progress, this was because they failed to assess the emotions in the music and would not be able to create narrative while listening to Western art music. Empathy means understanding another person's feelings the way they understand their own, cognitively and effectively (Clark & Giacomantonio, 2015). Juslin and Västfjäll (2008) stated that empathy might interact with emotional contagion, which is the ability to influence the emotions and behaviors of others. Finally, participants were asked, for a second time, whether they were interested in attending a Western art music concert.

Programmatic Music and Harmonic Polyphonic Music

As an experiment, I tested using programmatic music (*Samson and Delilah,* Bacchanale Act III by Saint-Saëns), which had a story, an idea, or an image given by a composer. The programmatic music group has the same procedure as the absolute group I described above. I predicted that my participants would respond better to programmatic music because programmatic music is intended to bring out extra-musical aspects like sights and incidents in listeners' minds. However, images and texts from the program may lead to biased listening. Biased listening occurs when the person hears only what they want to hear, typically misinterpreting what the other person says based on the title and descriptions of the music, as well as other biases they may have (ChangingMinds, 2019). For this part of the experiment, I used Saint-Saëns's opera music *Samson and Delilah* (ballet from Act III) to test the responses of participants in the programmatic music group.

For the final experiment, instead of using 10- to 20-second-long phrases from one movement of music—like in the programmatic music and absolute music pretest-treatment-posttest surveys—I chose the first 26 seconds of Mozart's "Requiem Confutatis," which was used in a scene in the film *Amadeus* (1984), directed by Milos Forman. This piece contains four-part vocals along with the background orchestra. My participants critically listened to evaluate this 26-second music and discovered harmonic and independent melodies (polyphonic texture) while working on this survey. I added the polyphonic texture recognition treatment to the experiment because, based on the findings from my literature review, for non-Western art music listeners to enjoy Western

art music, they need to learn to recognize elements of music such as harmony and polyphony. Polyphony is defined as having multiple independent voices, and harmony concerns the way in which notes are related to each other vertically simultaneously.

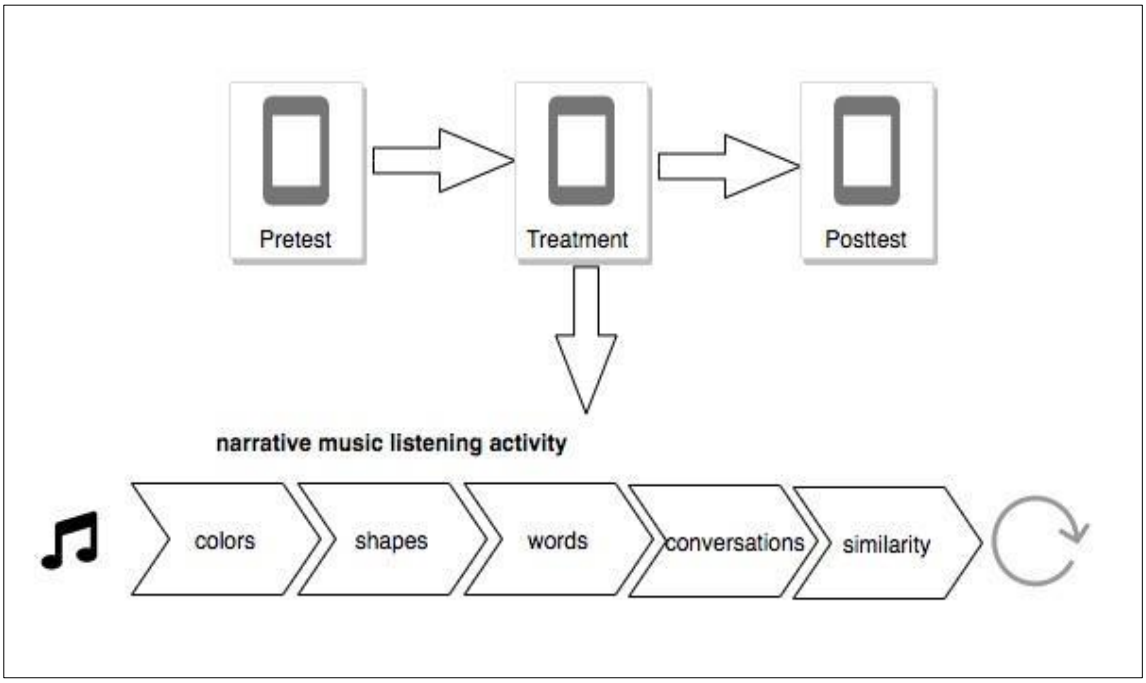
Flowchart

Participants had unlimited chances to repeat the lesson inside the treatment page until they were confident/ready to verbalize their emotions and imaginations with music on the posttest page. This activity is a solo learning experience consisting of a repetitive practice. This repetition develops just learned skills and knowledge into more complex knowledge and skills (Brabeck et al., 2011). The participants required a quick reaction to the music and emotion before short-term memory of the music decayed. Therefore, the participant had to maintain close attention to succeed in developing this skill.

Based on the research that was presented in the literature review of this paper, I learned that one of the possible reasons why Western art music is difficult for non-musicians to listen to is because of the complex harmonies and tonality. For example, the Beethoven's music that was used for the absolute group has triple fugue (Figure 20) (a single melody was played along with three different subjects that develop simultaneously), and as a result, his compositions have complex harmony and tonality. The experience from the narrative music listening activity should help participants verbalize their emotions and the story/image participants imagined while listening to the complex music. Figure 15 shows the flowchart of the online narrative music listening activity.

Figure 15

The Flowchart for the Online Narrative Music Listening Activity



Summary: The Benefits of the Lesson

Levinson (2004) addressed the phenomenon of music being a narrative. Any event or experience can inspire music. A musical narrative uses the people who elaborate on the instrumental music with related actions or events (Levinson, 2004). Essentially, a musical narrative is like a storyteller who represents all of the characters in the storyline (Almén, 2017). The purpose of this diverse combination of musical elements is to create a performance that captivates the listeners' emotions and thoughts at that moment. Curiosity about Western art music occurs by recognizing recently learned music, and participants may then seek to explore narrative stories within Western art music. Through listening to narrative music, which generates extra-musical meanings, participants not

only get in touch with the emotional state of Western art music, but also their own emotions. A benefit of this exposure is that the participants may learn to appreciate this unfamiliar music more and may thus be more interested in attending live Western art music concerts.

Chapter V

RESULTS

Introduction

In the previous chapter, I outlined the research methodology that I used to test the efficacy of my treatment strategy on music appreciation in a sample of non-Western art music listeners. My research aim was to determine whether a narrative music listening activity improves non-Western art music listeners' emotional responses to Western art music. My additional research questions were:

Attitude:

1. Does a narrative music listening activity help motivate non-Western art music listeners to attend Western art music concerts?

Listening Skill:

2. Do non-Western art music listeners with better aural memory show more interest in attending Western art music concerts following the narrative music listening activity?
3. Do non-Western art music listeners who recognized major/minor harmony show increased interest in attending a Western art music concert following the narrative music listening activity?
4. Do analytical thinkers show increased interest in attending a Western art music concert after the narrative music listening activity? (a scale range was

used for my participants to answer if they are more creative thinkers or more analytical thinkers)

5. Do non-Western art music listeners notice changes in music used in the narrative music listening activity?
6. Do narrative music listening activities help non-Western art music listeners to discover new ways to appreciate Western art music?

Types of Music:

7. Will the narrative music listening activity using programmatic music increase non-Western art music listeners' engagement emotionally and cognitively?
8. Will non-Western art music listeners write detailed responses to Western art music after the narrative music listening activity introducing polyphonic texture?

Then, my main question was: Do narrative listening activities help non-musicians express emotional responses to Western art music?

In this study, I introduced non-Western art music listeners to the skill of finding a story in music. To aid in this process, I designed an activity where non-Western art music listeners can naturally develop extra-musical ideas that invite narrative correlations with the music. In this chapter, I present the main findings from the data I collected in the pretest-treatment-posttest design survey. For this research, I attempted to determine whether these music listening treatments that introduce extra-musical associations and encourage non-Western art music listeners to develop narrative associations, would help them show a stronger interest in appreciating Western art music. My participants' level of

interest in attending Western art music concerts before and after the treatment was measured to monitor the interest level changes. I narrowed the resulting targets to a low interest level group who stated they are strongly not interested, not interested, somewhat not interested, and neither interested nor not interested in the pretest Likert scale. I then examined the change in this group of people after the treatment. I analyzed their perception from music listening and the use of creative listening. I expected that by being introduced to creative music listening skills, my participants would have improved emotional recognition in this active listening experience and invent original stories. I also expected my participants to learn to include fluency (write about things they hear, think, or feel) and flexibility (musical elements associated with emotion) in music listening responses after the narrative music listening treatment. Metrics of these results would help me measure the quality of the exercise.

This chapter provides the results of the three groups. First, the narrative music listening activity and written responses to emphasize the effect of the treatment on the absolute music (no narration) group. Secondly, I compare the results from the programmatic music (represent some narration) treatment group and finally, the harmony and polyphonic texture (two or more independent layers played simultaneously with melody) group.

The Results from the Absolute-Music Group

Seventy-three people participated and the completion rate was 75%, and a total of 55 individuals completed the music listening survey. It took participants an average of 18 minutes to complete the survey.

RQ 1: Pre/post interest in attending a Western art music concert from the absolute-music group. The first group listened to absolute music. The respondents to the absolute-music survey specified their level of agreement with a statement on a 7-point scale. The mean level of interest in attending a Western art music concert before (pretest) working on the narrative music listening activity was 3.80 (*SD* = 3.45). The mean level of interest in attending a Western art music concert after (posttest) working on the narrative music listening activity was 5.25 (*SD* = 1.56). The upper column of Table 5 shows the pretest responses regarding interest in attending a Western art music concert (absolute music). In addition, the lower column of this Table 5 shows the posttest responses regarding interest in attending a Western art music concert (absolute music).

Table 5

Pretest/Posttest Interest in Attending a Western Art Music Concert (Absolute Music)

Interest Level & Points	**STRONGLY NOT INTERESTED (1)**	**NOT INTERESTED (2)**	**SOMEWHAT NOT INTERESTED (3)**	**NEITHER INTERESTED NOR UNINTERESTED (4)**	**SOMEWHAT INTERESTED (5)**	**INTERESTED (6)**	**STRONGLY INTERESTED (7)**	**WEIGHTED AVERAGE**
Pretest	10.91 %	14.55 %	23.64 %	7.27%	23.64 %	18.18 %	1.82%	3.80
Posttest	3.64%	5.45%	7.27%	0.00%	34.55 %	27.27 %	21.82 %	5.25

The results of a paired sample *t*-test for the absolute-music listening participants who indicated a low interest in attending a Western art music concert revealed that there was a statistically significant increase ($t(30) = -7.52$, $p < .001$, $d = 1.35$) in interest in Western art music concerts between the pretest ($M = 2.54$, $SD = 0.93$) and the posttest ($M = 4.77$, $SD = 1.73$). The narrative music listening activity appeared to help motivate participants who showed a low interest in attending a Western art music concert at pretest, to have a higher interest in attending a Western art music concert. Additionally, the effect size of 1.35 indicated that the narrative music listening activity had a large effect.

RQ 2: Music recognition skill (aural memory). After the treatment, 31 out of 55 total participants were able to recognize the music they had heard on the pretest page. However, this means that 23 out of 55 were unable to recognize the music they had heard on the pretest page. One participant answered "unsure."

A paired samples *t*-test showed that, among participants who correctly recognized the music they had heard earlier, showed an increased interest in attending a Western art music concert. The increase from the pretest ($M = 4.03$, $SD = 1.62$) to posttest was ($M = 5.45$, $SD = 1.62$), ($t(30) = 3.96$, $p < .001$, $d = 0.71$). The narrative music listening activity appears to have helped motivate participants who correctly recognized music they had heard earlier to attend a Western art music concert. The effect size of 0.71 indicated that this was a large effect (Cohen, 1962).

A paired samples *t*-test showed that, for participants who could not recognize music they had heard earlier, their interest in attending a Western art music concert also increased from pretest ($M = 3.83$, $SD = 1.53$) to posttest ($M = 5.00$, $SD = 1.51$), ($t(22) = -$

4.44, p <.001, d= 0.93). The narrative music listening activity appears to have helped motivate participants who could not recognize music they had heard earlier to attend a Western art music concert. The effect size of 0.93 indicated that this was a large effect (Cohen, 1962).

Because pretest differences between aural memory, key recognition, thinking style, and music style were not significant and had no baseline differences, I ran a two-way ANOVA for each data set. The two independent variables for this one were: time (pretest and posttest interest in attending a Western art music concert) and aural memory ability (ability to identify previously heard music vs. no ability to identify previously heard music). I recognize two main effects: A main effect of time or a main effect of ability to identify previously heard music. I have one interaction: an interaction between time and aural memory. I examined my results to see if participants typically had higher posttest scores than pretest scores, regardless of whether they are having aural memory or no aural memory (main effect #1). Or with a aural memory, was there always higher interest scores than no aural memory (main effect #2). Then I wanted to find if the difference between the pretest and posttest scores depended on having aural memory and no aural memory (interaction).

A 2 (time) x 2 (aural memory) two-way ANOVA showed a significant increase in interest in attending a Western art music concert between the pretest (M = 3.94, SD = 1.58) and the posttest (M = 5.26, SD = 1.59), ($F(1,52) = 29.82$, $p < .001$, partial $\eta 2 = .36$). This was considered a large effect (Draper, 2020). However, there was no significant main effect of aural memory $F(1,52) = 0.80$, $p = .376$, nor was there a significant

interaction between time and aural memory F(1,52) = 0.27, p = .607. Thus, participants tended to become more interested from the pretest to the posttest, but there was no difference in interest between people with aural memory and without aural memory. There also was no difference in changes between the pretest and posttest scores depending on whether a participant had an aural memory. Table 6, Table 7, and Figure 16 show the results of aural memory and time interaction.

Figure 16

Pretest & Posttest for Aural Memory

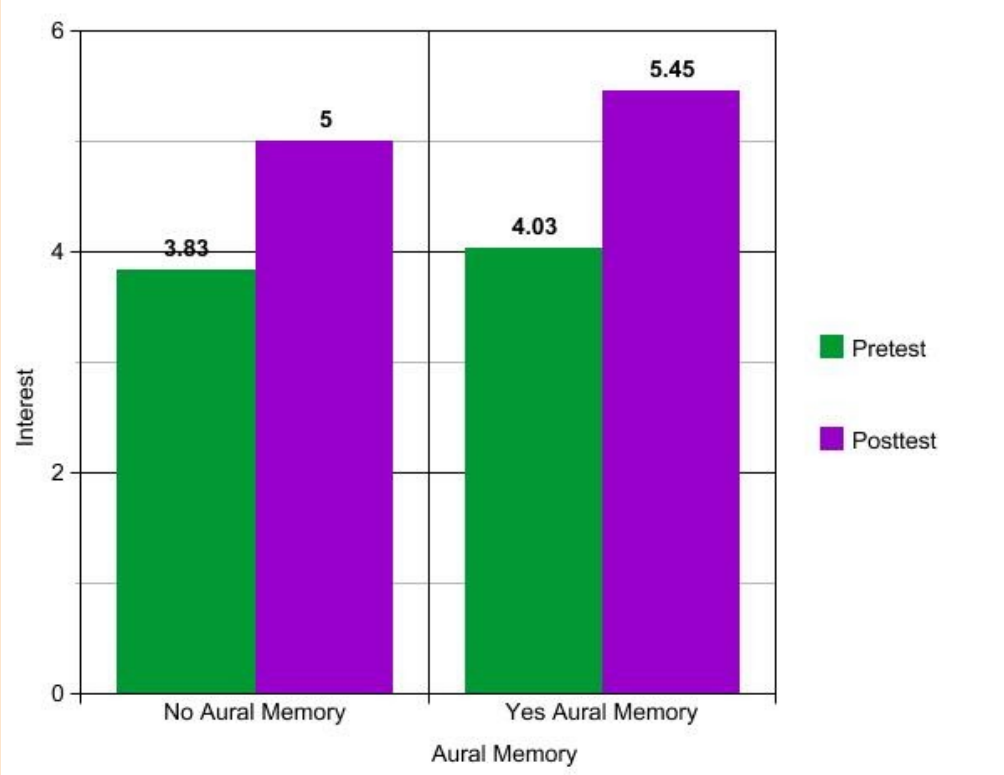


Table 6

Descriptives: Aural Memory

	Aural Memory		**Statistic** Mean and SE
Pretest	No	*M*	3.83 [3.17, 4.49]
		SD	1.53
	Yes	*M*	4.03 [3.43, 4.63]
		SD	1.64
	All	*M*	3.94 [3.51, 4.38]
		SD	1.58
Posttest	No	*M*	5.00 [4.35, 5.65]
		SD	1.51
	Yes	*M*	5.45 [4.85, 6.06]
		SD	1.65
	All	*M*	5.26 [4.82, 5.69]
		SD	1.59
Total Interest	No	*M*	4.41 [3.82, 5.01]
		SD	1.38
	Yes	*M*	4.74 [4.26, 5.22]
		SD	1.310
	All	*M*	4.60 [4.24, 4.97]
		SD	1.34

Note. Numbers in square brackets are 95% confidence intervals for listed means.

Table 7

Two-Way ANOVA Results: Aural Memory

Factor	**Type III Sum of Squares**	**df**	**Mean Square**	**F**	**Partial η^2**
Within-Subjects Effects					
Time	44.40	1	44.40	29.82**	.36
Time * Aural Memory	0.40	1	0.40	0.27	.01
Error (Time)	77.43	52	1.489		
Between-Subjects Effects					
Intercept	2213.30	1	2213.30	617.04**	.92
Aural Memory	2.86	1	2.86	0.80	.02
Error	186.52	52	3.587		

*Note. *p <.05. **p <.001.*

RQ 3: Major and minor key recognition ability. Following the narrative music listening activity, 43 out of 55 participants were able to identify major and minor keys. On the other hand, 11 out of 55 were not able to identify major and minor keys. 78% of participants had key recognition skill but 20% did not. Additionally, one participant answered "unsure."

Comparing Pre-Post Interest Rates of People Who Were Able to Identify Major and Minor Keys. The results of a paired sample *t*-test for participants who correctly identified music in a major or minor key revealed that there was a statistically significant increase (t(43) = -4.82, p <.001, d = 0.73) in interest in Western art music concerts from pretest (*M* = 3.34, *SD* = 2.01) to posttest (*M* = 4.95, *SD* = 1.76). This suggests that the narrative music listening activity appeared to help motivate participants who could correctly identify major and minor keys to attend a Western art music concert.

The results of a paired sample *t*-test for participants who could not identify music in a major or minor key revealed that there was a statically significant increase (*t*(11) = -3.63, *p* = .004, *d* = 1.05) in interest in Western art music concerts from the pretest (*M* = 4.17, *SD* = 1.59) to the posttest (*M* = 6.00, *SD* = 0.85). Therefore, the narrative music listening activity appeared to help motivate participants who could not correctly identify major and minor keys to attend a Western art music concert. The effect size of 1.05 indicated that this was a large effect (Cohen, 1962).

I ran a two-way ANOVA. Two independent variables for this one were: time (pretest and posttest interest in attending a Western art music concert) and key recognition ability (ability to identify minor keys and major keys vs. no ability to identify

minor keys and major keys). I have two main effects: A main effect of time or a main effect of ability to identify keys. I have one interaction: an interaction between time and key recognition ability. I analyzed my results to see if my participants typically had higher posttest scores than pretest scores, regardless of whether they had key recognition or no key recognition (main effect #1). I also wanted to evaluate whether participants with key recognition ability always have higher interest scores than those with no key recognition (main effect #2). I then wanted to find if the difference between the pretest and posttest scores depends on having key recognition and no key recognition ability (interaction).

A 2 (time) x 2 (key recognition) two-way ANOVA revealed a significant increase in interest in attending a Western art music concert between pretest (M = 3.52, SD = 1.94) and posttest (M = 5.18, SD = 1.66), $F(1, 54) = 24.58$, $p < .001$, partial $\eta^2 = .31$. This was considered a large effect (Draper, 2020). Furthermore, people who did not identify the major and minor keys expressed a greater interest in attending a Western art music concert (M = 5.08, SD = 0.93) than people who did identify major and minor keys (M = 4.15, SD = 1.53), $F(1, 54) = 4.04$, $p = .049$, partial $\eta^2 = .07$. This was considered to have a medium effect (Draper, 2020). However, there was no significant interaction between time and key recognition, $F(1, 54) = 0.10$, $p = .753$. Thus, participants tended to become more interested from pretest to posttest, and participants who could not identify major and minor keys were more interested in attending Western art music concerts, but there was no difference between pretest and posttest scores that depended on whether a

participant could identify major and minor keys. Table 8, Table 9, and Figure 17 show the results of interaction between key recognition and time.

RQ 4: Do analytical thinkers show increased interest in attending a Western art music concert after the narrative music listening activity? I found that 31 out of 55 participants said they were analytical thinkers on the scale range that was in the pretest section, and 23 out of 55 said they were creative thinkers.

The results of a paired sample *t*-test for participants who said they were analytical thinkers revealed that there was a statically significant increase ($t(30) = -3.36$, $p = .003$, $d = 0.71$) in interest in Western art music concerts from pretest ($M = 4.23$, $SD = 1.54$) to posttest ($M = 5.58$, $SD = 1.36$). Therefore, the narrative music listening activity appeared to help motivate participants who said they were analytical thinkers to attend a Western art music concert. The effect size of 0.71 indicated that this was a medium effect (Cohen, 1962).

The results of a paired sample *t*-test for participants who said they were creative thinkers revealed that there was a significant increase in interest in Western art music concerts from pretest ($M = 4.23$, $SD = 1.54$) to posttest ($M = 5.41$, $SD = 1.22$), $t(21) = 3.36$, $p = .003$, $d = 0.71$. Thus, the narrative music listening activity helped motivate participants who said they were creative thinkers to attend a Western art music concert. The effect size of 0.71 indicated that this was a medium effect (Cohen, 1962).

Table 8

Descriptives: Key Recognition

	Key Recognition		**Statistic** Mean and SE
Pretest	No	*M*	4.17 [3.16, 5.17]
		SD	1.59
	Yes	*M*	3.34 [2.73, 3.95]
		SD	2.01
	All	*M*	3.52 [3.00, 4.04]
		SD	1.94
Posttest	No	*M*	6.00 [5.46, 6.54]
		SD	0.85
	Yes	*M*	4.95 [4.42, 5.49]
		SD	1.76
	All	*M*	5.18 [4.73, 5.62]
		SD	1.66
Total Interest	No	*M*	5.08 [4.50, 5.67]
		SD	0.93
	Yes	*M*	4.15 [3.68, 4.61]
		SD	1.53
	All	*M*	4.35 [3.96, 4.74]
		SD	1.47

Note. Numbers in square brackets are 95% confidence intervals for listed means.

Table 9

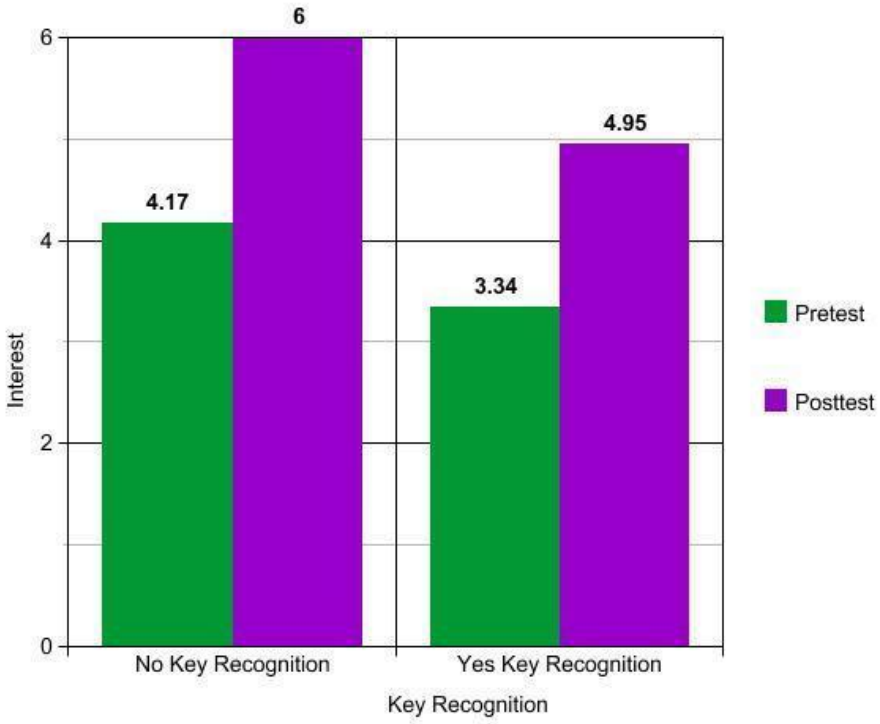
Two-Way ANOVA Results: Key Recognition

Factor	**Type III Sum of Squares**	***df***	**Mean Square**	***F***	**Partial η^2**
Within-Subjects Effects					
Time	56.01	1	56.01	24.58**	.31
Time * Key Recognition	0.23	1	0.23	.10	.00
Error (Time)	123.05	54	2.28		
Between-Subjects Effects					
Intercept	1606.86	1	1606.86	393.67**	.88
Key Recognition	16.51	1	16.507	4.04*	.07
Error	220.41	54	4.082		

Note. *p <.05. **p <.001.

Figure 17

Pretest & Posttest for Key Recognition



I ran a two-way ANOVA. The two independent variables for this one were: time (pretest and posttest interest in attending a Western art music concert) and thinking style (creative thinkers vs. analytical thinkers). I have two main effects: A main effect of time or a main effect of thinking style. I have one interaction: an interaction between time and thinking style. I examined my results to see if participants typically have higher posttest scores than pretest scores, regardless of their thinking style (main effect #1), or do creative thinkers always have higher interest scores than analytical thinkers (main effect #2). Then wanted to find if the difference between pretest and posttest scores was dependent on creative thinkers versus analytical thinkers (interaction).

A 2 (time) x 2 (thinking style) two-way ANOVA showed evidence of a significant main effect of time, with interest in attending a Western art music contest increasing between the pretest ($M = 4.23$, $SD = 1.68$) and the posttest ($M = 5.51$, $SD = 1.30$), $F(1, 51) = 25.38$, $p < .001$, partial $\eta^2 = .33$. This was considered to have a large effect size (Draper, 2020). However, there was no significant effect of thinking style, $F(1, 51) = 0.06$, $p = .803$; and there was no significant interaction between time and thinking style, $F(1, 51) = 0.12$, $p = .733$. Thus, while interest increased from pretest to posttest in general, interest did not differ depending on thinking style, nor did the difference between pretest and posttest scores differ depending on thinking style. Tables 9 and 10, as well as Figure 18, display these results of thinking style.

Results of the Treatment Section

RQ 5: Do non-musicians notice changes in music used in narrative music listening activity? The first music excerpt in the absolute music treatment was from the section in which Beethoven (Beethoven's Symphony No. 3 in E-Flat Major, Op. 55, II) presents the somber theme in the violins over a drum-like bass. The second music excerpt came from where an intense fugal begins. Fugue in music is the composition technique that involves two more layers of voices that build on melody lines and play simultaneously (Benward, 1985). The change from Excerpt 1 to Excerpt 2 was noteworthy in its volume, complexity of harmony, and rhythm. Excerpt 2 is louder, has multiple layers of phrases (including whole notes and trills) that supported the main melody, and adds short rhythmic notes in the second half of the excerpt.

Table 10

Descriptives: Thinking Style

	Thinking Style		Statistic Mean and SE
Pretest	Analytical	*M*	4.23 [3.66, 4.79]
		SD	1.54
	Creative	*M*	4.23 [3.38, 5.07]
		SD	1.90
	All	*M*	4.23 [3.76, 4.69]
		SD	1.68
Posttest	Analytical	*M*	5.58 [5.08, 6.08]
		SD	1.36
	Creative	*M*	5.41 [4.87, 5.95]
		SD	1.22
	All	*M*	5.51 [5.15, 5.87]
		SD	1.30
Total Interest	Analytical	*M*	4.90 [4.48, 5.33]
		SD	1.16
	Creative	*M*	4.82 [4.21, 5.42]
		SD	1.37
	All	*M*	4.87 [4.53, 5.21]
		SD	1.24

Note. Numbers in square brackets are 95% confidence intervals for listed means.

Table 11

Two-Way ANOVA: Thinking Style

Factor	**Type III Sum of Squares**	***df***	**Mean Square**	***F***	**Partial η^2**
Within-Subjects Effects					
Time	41.40	1	41.40	25.38**	.33
Time * Thinking Style	0.19	1	0.19	0.12	.00
Error (Time)	83.19	51	1.63		
Between-Subjects Effects					
Intercept	2432.19	1	2432.19	821.66*	.94
Thinking Style	0.19	1	0.19	0.06	.00
Error	150.97	51	2.96		

*p <.05. **p <.001.

Figure 18

Pretest & Posttest Scores by Thinking Style

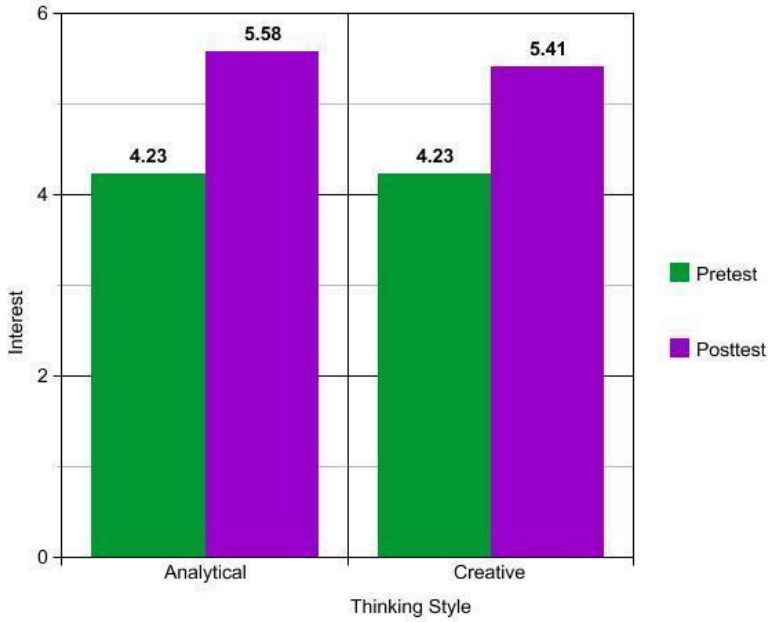


Figure 19

Music Score of Excerpt 1 (Beethoven *Symphony No. 3, Second Movement*)

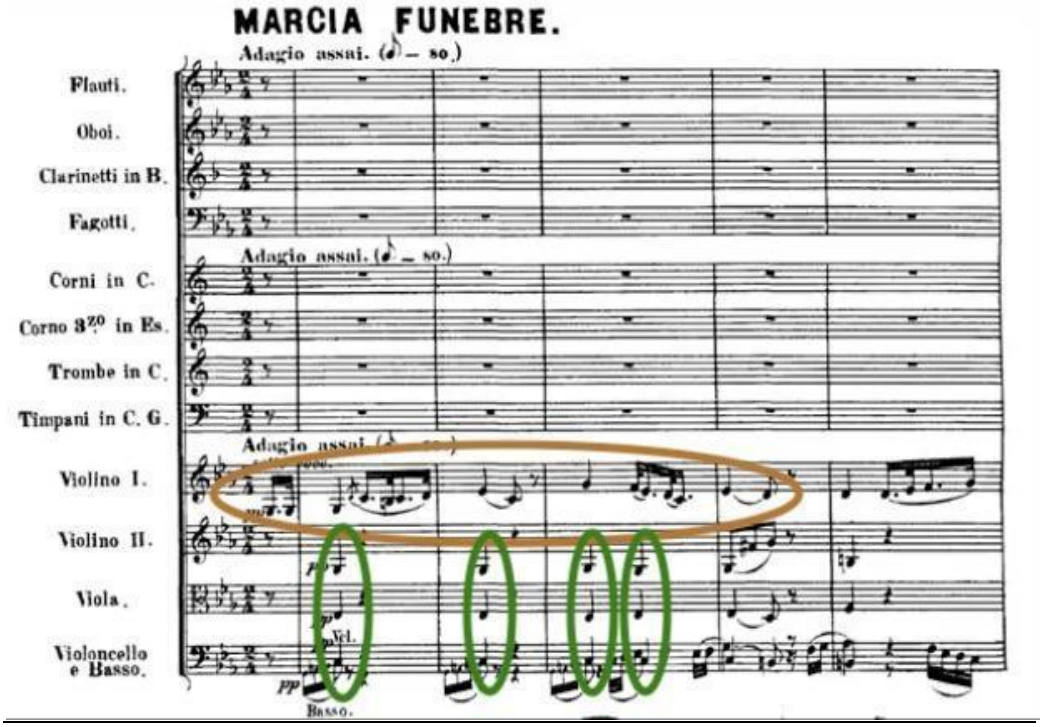


Figure 20

Music Score of Excerpt 2 (Beethoven Symphony No. 3, Second Movement)

Blue was the color that the absolute-music listening activity participants chose most (43%) for Excerpt 1. The color blue often symbolizes serenity, stability, inspiration, or wisdom (Aslam, 2006). In contrast, black was the color that absolute-music listening activity participants picked the most (51%) for Music Excerpt 2. Black often symbolizes authority, power, and strength (Aslam, 2006). Figures 20 and 21 show the color choices.

Up and down was the shape that 49.09% of 55 absolute-music listening activity participants selected most often for Excerpt 1. In addition, 40.00% chose the swirling line shape for Excerpt 1. Different short sounds were the shapes that 34.55% of 55 absolute music listening activity participants picked most for Excerpt 2. Finally, 27.27% participants chose swirling for music Excerpt 2.

Figure 21

Color Choices from Absolute-Music Excerpt 1

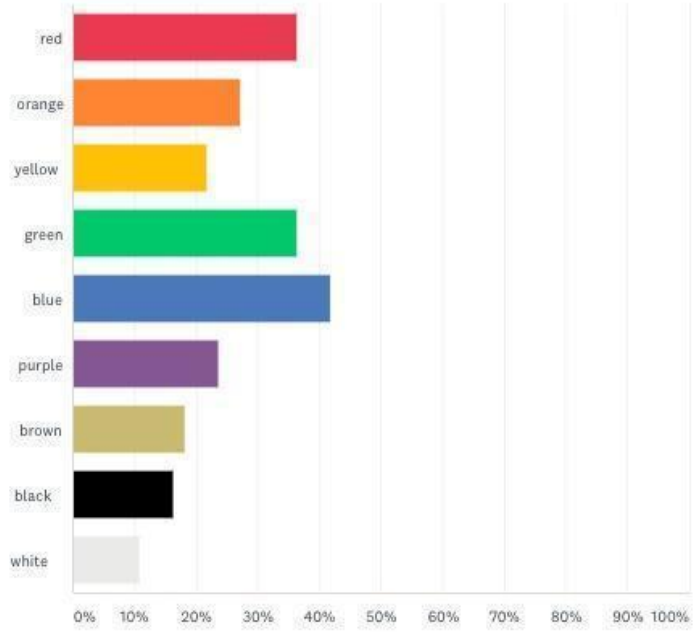
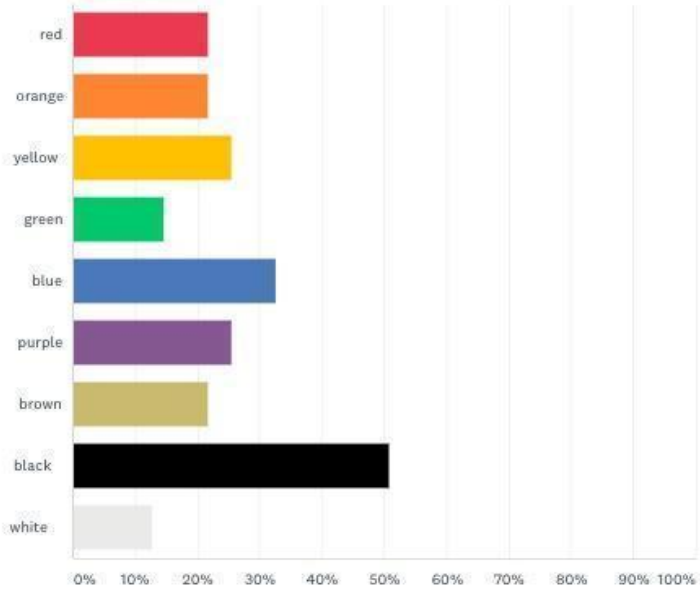


Figure 22

Color Choices from Absolute-Music Excerpt 2



Sound rising (30.43%) and different short sounds (28.26%) were the top two shapes selected by the absolute music listening activity participants who said they were interested in attending a Western art music concert after the treatment, and these shapes were chosen most to represent Excerpt 2. Sound rising (55.56%) was the dominant shape for participants in the absolute music group who said they were not interested in attending a Western art music concert after the treatment, and this shape was chosen most to represent Excerpt 2.

Dreamy, yielding, tender, sentimental, longing, yearning, pleading, and plaintive comprised the group of emotions that 43.64% of the absolute music listening activity participants selected most for Excerpt 1. However, I found that 40% picked pathetic, doleful, sad, mournful, tragic, melancholy, frustrated, depressing, gloomy, heavy, and dark for the same excerpt. For Excerpt 2, pathetic, doleful, sad, mournful, tragic, melancholy, frustrated, depressing, gloomy, heavy, and dark constituted the group of emotions that 49.09% absolute music listening activity participants selected. In addition, 21.82% participants picked spiritual, lofty, awe-inspiring, dignified, sacred, solemn, sober, and serious for Excerpt 2.

Cooperative-two-way and cooperative-one-way were the conversation styles that 70.91% of the absolute music treatment participants picked the most for Excerpt 1. Competitive-one-way was the conversation style that 43.64% of the absolute music treatment participants chose for music Excerpt 2. In addition, 34.55% participants picked a cooperative-two-way for Excerpt 2.

Two participants who said they were somewhat uninterested during the pretest could not find any similarities between Excerpt 1 and "Batman: The Dark Knight" by Hans Zimmer. Both participants indicated they were somewhat interested in going to a Western art music concert during the posttest. In addition, one participant who marked "strongly not interested" and four who said "somewhat not interested" during the pretest could not recognize any similarities between the music in Excerpt 2 and the Kraken theme by Hans Zimmer. Two of the participants became somewhat interested in attending live Western art music concerts, one became interested during the posttest, and one stated they were strongly uninterested. Everyone noticed some similarities between Excerpt 3 and music by Hans Zimmer for *Inception*. One participant who was strongly uninterested and three who were somewhat uninterested could not find any similarities between Excerpt 4 and the film music "Left Behind" by Secession Studios. During the posttest, one participant marked strongly uninterested, one marked somewhat interested, and two stated they were interested.

The Main Research Question: Do Narrative Music Listening Activities Help Non-Western Art Music Listeners Express Emotional Responses to Western Art Music?

During both the pretest and posttest sections, participants were asked to listen to short excerpts from a Brahms' symphony. They were then asked to state what kind of emotions the music evoked. In addition, they were asked what musical elements (e.g., sound high/low, melody, blending of simultaneous sounds, rhythm, tempo, the note: short or long, and the note: heavy or light) evoked specific emotions. Figure 23 shows the word cloud used in the pretest responses.

Figure 23

Word Cloud from Pretest Responses

The most popular word used in the listening pretest was "sad" followed by "hope," "emotion," and "love." The majority of responses from the pretest featured only a few words (e.g., "hopeful tension" and "cautiously hopeful"). There were two participants out of 55 who gave narratives as their pretest responses (e.g., "It reminds me of someone you loved"). In addition, one participant perceived a change in the music by stating, "At first despair, but midway through it changes to hope."

Trends in Posttest Music Listening Written Responses (Absolute Music)

Presented in Figure 24 is the word cloud from posttest responses to compare with the pretest word cloud shown in Figure 23. Compared to the written pretest responses, for the posttest, there was more variation in the words used, which suggested increased participant fluency (they wrote about things they hear, think, or feel) and flexibility (musical elements associated with emotion). Participants who wrote short answers in the pretest began writing more descriptive responses on reflection in the posttest.

Figure 24

Word Cloud from Posttest Responses

What follows are sample written responses from the posttest.

1. The highs depict hope and happiness, while the low notes depict worry/cautiousness.

2. That small short/long or heavy and light can make a big difference in how I feel.

3. It can be interpreted in many different ways depending on the individual. The blend of harmony and highs/lows can evoke a roller coaster of emotions within short periods of time.

4. To listen to the way the elements come together to discover the feeling. It is not only low notes and tones that can evoke or signify dark and ominous feelings; often one single instrument blazing a high note can be as much of a warning of a deep serious subject or emotion.

What follows here is a sample response that addresses musical elements without connecting them to emotion:

5. A combination of many sounds, the music was back and forth, yet rising overall with mostly long notes and short notes lending to the pull back.

There were also responses from participants who were able to create original stories with emotional content. These demonstrate the capacity to associate musical elements with emotion, exhibiting flexibility. The samples follow here:

1. The horns blazing in and falling gave a feeling of intense curiosity with an underlining of trepidation. The melody was light with hints of darkness hiding just under the surface cautioning the listener.

2. Like if he was sad then … He found happiness & he is with the love of his life. High melody. Heavy note.

3. It makes me feel a bit sad, melancholic, an image of a person thinking of old good past moments that are long gone, I feel is a mix between high and low sounds.

What follow here are written samples from participants who created original titles for the absolute music they heard. Although the titles are short, these responses imply narrative:

1. Venturing into the Unknown Forest

2. The End of a New Beginning

3. The Song of the Court

4. Why Did You Leave?

What follows here is a written response by a participant who created dialogue from their listening to absolute music:

> What is that? It starts by questioning and becomes more confident.

Finally, what follow here are written responses by participants who created narratives from their absolute-music listening experience but did not flexibly connect those narratives to emotional content:

1. The main character tries to discover something and gets closer and closer while experiencing highs and lows along the way.

2. The story is about the various plants and animals that interact with each other in nature.

3. Video montage on baby's life and him growing up.

4. This would fit in with a cut scene that provides a character's backstory or perhaps allows viewers to see another side of a character (such as a hidden personality trait).

Quantitative Results

Rubrics shown in Table 1 (Rubric for Pretest Music Listening Writing Responses) and Table 2 (Rubrics for Posttest Music Listening Writing Responses) in Chapter III were used to measure the quality of participants' written responses from both the pretest and posttest. I enlisted the help of one independent evaluator with experience in music education to help with coding the statements and categories of responses.

The mean of the pretest written results from the 23 people out of the 55, who were not interested (low interest group) in attending a Western art music concert during the pretest but became interested in attending Western art music concerts during the posttest was 0.96 (SD = 0.21). The mean of the pretest written results from eight people who were not interested during the pretest and remained uninterested at the posttest was 0.50 (SD = 0.53). Below are the null hypothesis and the alternative hypothesis:

H_0: The post test interest level has no effect on quality of written responses.

H_1: The higher post test interest level has a positive effect on written responses.

Independent t-test sample of participants who were not interested in attending a Western art music concert found no significant difference in the posttest written response scores between participants who gained interested at posttest (M = 1.48, SD = 0.59) and participants who remained uninterested at posttest (M = 1.38, SD = 0.52), $t(29) = 0.44$, p = .665. This suggests that the null hypothesis cannot be rejected.

The rubric for vocabulary counts (Table 4) was designed to score each response with the number of words related to music listening that was used in each response. An independent samples *t*-test of participants who were not interested in attending a Western art music concert found no significant difference in listening and vocabulary scores between participants who gained interested in the posttest ($M = 1.96$, $SD = 1.07$) and participants who remained uninterested during the posttest ($M = 1.50$, $SD = 1.07$), $t(29) = 1.04$, $p = .305$. The group with people who were not interested in attending a Western art music concert at the posttest and the group with people interested in attending a Western art music concert at the posttest showed progress on the quality of music listening written responses. Therefore, the null hypothesis cannot be rejected.

RQ 6: Do narrative listening activities help non-Western art music listeners discover new ways to appreciate Western art music? Below are selected answers from the question asking about experience participating in this narrative music listening activity using absolute music. These concern the overall experience of listening:

1. It is much more entertaining to me than I had imagined and it can evoke multiple emotions without any words driving those emotions.
2. That I enjoy it more than I thought I would.
3. I learned to show my emotions and translate them to a word in songs.
4. I never really thought it could be associated with a color. It was something I never thought about until this study.
5. Music contains a lot of secret hidden details that make it very good.
6. I learned that classical music isn't always meant to be happy and calming.

What follow are written responses from participants who included comments about film music in their experience review. These are responses that participants who noticed that some film music scores are orchestral works based on Western art music compositional styles:

1. That it shares similarities to music composed for films.
2. Modern movie music scores have ties to themes found in many classical music pieces.

Results from the Programmatic Music Module

RQ 7: Will the narrative listening activity using programmatic music increase emotional and cognitive engagement? The second group listened to programmatic music with a musical composition quality and were asked to define the words or scenes. A total of 32 participants volunteered to participate in the music listening survey. The completion rate was 89% and the typical time spent completing the survey was 20 minutes.

Qualitative Results

Below follow excerpts from what participants learned from the narrative music listening activity using programmatic music. The word "story" appeared frequently in the responses:

1. There is dialogue in the tone of music.
2. It's not all about lyrics.
3. Emotions in music and have stories.

4. This helped me consider the types of conversations occurring within the piece, which will help me enjoy the story more rather than listening to the music because I find a certain piece catchy.

5. I have learned that music can tell a story without using any words. It can evoke emotions and images in a person's mind just by the sounds and how they are arranged.

Quantitative Results

The following section will examine the difference between pre- and post-experiential attitudes towards attending a Western art music concert among participants in the program-music group. There was a total of 32 participants in the program-music treatment group. The average level of interest in attending a Western art music concert before (pretest) working on this narrative music listening activity using programmatic music(treatment) was 3.81 (*SD* = 1.74). The average level of interest in attending a Western art music concert after (posttest) working on this narrative music listening activity was 5.00 (*SD*= 1.62).

The results of a paired samples *t*-test for programmatic music participants who showed low interest in attending a Western art music concert during the pretest of the programmatic music listening activity revealed that there was a significant increase in interest in Western art music concerts from pretest (*M* = 2.67, *SD* = 1.22) to posttest (*M* = 5.44, *SD* = 0.53), $t(8) = -5.98$, $p < .001$, *d = 1.99*. This suggests that the narrative music listening activity using programmatic music helped motivate participants who showed a low interest in attending a Western art music concert at pretest to want to attend a Western art music concert at posttest. The effect size of *1.99* indicated that this was a large effect (Below I compare this with results from the absolute music group).

After the treatment, 23 (71.88%) out of 32 total participants were able to recognize the music they heard on the programmatic music pretest page. On the other hand, 10 (31.25%) out of 32 were unable to recognize the music they heard on the programmatic music pretest page.

Quantitative Results Comparing the Absolute-Music and Program-Music Groups

The completion rate from the absolute music treatment was 75%, and the completion rate from the programmatic music treatment was 89%. The low interest level for the absolute-music group was (n=31) while the low interest level for the program-music group was (n=9).

I ran a two-way ANOVA. Two independent variables for this one were (a) time (pretest and posttest interest in attending a Western art music concert), and (b) music style (absolute vs. program). I recorded two main effects: (a) A main effect of time or (b) a main effect of music style. I have one interaction: an interaction between time and types of music. I examined to see if participants typically have higher posttest scores than pretest scores, regardless of musical style (main effect #1). Programmatic music consistently produced higher interest scores than absolute music (main effect #2). I then wanted to find if the difference between pretest and posttest scores depended on programmatic music and absolute music (interaction).

A 2 (time) x 2 (music type: program versus absolute) two-way ANOVA revealed evidence of a significant main effect of time, with interest in attending a Western art music contest increasing between the pretest (M = 2.58, SD = 0.98) and the posttest (M = 4.93, SD = 1.56), $F(1, 38) = 68.43$, $p < .001$, partial $\eta^2 = .64$. This was considered a large

effect size (Draper, 2020). However, there was no significant effect of music type, $F(1, 38) = 1.02$, $p = .319$; and there was no significant interaction between time and music style, $F(1, 38) = 0.83$, $p = .367$. Thus, while interest increased from the pretest to posttest in general, interest did not differ depending on the type of music (absolute vs. program), nor did the difference between pretest and posttest scores differ depending on music type. Table 12, Table 13, and Figure 25 show the results of music type and time interaction.

Results from the Harmony and Polyphonic-Texture Group

RQ 8: Will non-Western art music listeners write detailed responses after the narrative listening activity introducing polyphonic texture? The third group listened to music with polyphonic texture. Figure 26 shows the music score of polyphonic texture used in this activity, which plays multiple independent layers of melodies simultaneously with the main melody.

Qualitative Results

"Notes" and "sounds" were the words used most often on the posttest-listening response from the harmony and polyphonic-texture (two or more independent layers played simultaneously with the melody) analysis treatment group. Below are some posttest music listening responses from this group.

1. Urgency, loftiness, grandiosity. Long notes intercut by shorter ones and swirling of the voice.

2. It's like a tug of war between the two voices in the middle of a storm. I'm imagining them on the deck of a ship and the rain and wind are whipping around while the sea sprays up over the side of the boat.

3. Majesty, victory, marching, excitement. Evoked by the gradual building of sound and pitch, especially the many string notes punctuated by the strong notes of chorus and percussion/horns.

4. The sounds are combined to create a symphony. The feel is exciting, strong, and definite. The sounds are short and rising. I feel excited when I hear a climax.

5. It sounds like all the parts are working together to raise this sense of drama within the music. The low ends and percussion lead to the anxious feeling. And the strings are playing faster notes which builds the tension.

6. The short notes evoked a feeling of marching, triumph, battle. The buzzing string line moving quickly evoked a feeling of needing to accomplish the errand.

7. Loud, confident notes, well-developed, with the edges discrete but rounded off smoothly, strings playing backup in elevating and accelerating the conversation, drums providing tempo and stability with no risk of accelerating out of control.

8. As the sound grows higher and louder the general is rallying the troops to battle and inspiring them to go forth for their country, their families and more. It is a big crescendo into the epic fight scene. It made me feel excited, passionate, ready to go myself. The voices of the choir made it even more compelling with the beautiful harmonies blending together to tell us to go forth.

Participants doing the polyphonic-listening activity were asked what they learned after they had observed techniques for identifying polyphonic music in the film *Amadeus*. Below are some responses that showed the understanding of texture that is typically present in this music.

1. It is synchronous and very involved with many people and various instruments.

2. Well, my feelings about the music didn't change much pretest or posttest…..But the exercise made me take the time to flesh out a clearer mental image, rather than just a vague idea.

3. Relistening to the piece sounded totally different than the first time. I wasn't even certain it was the same piece... but I still felt the same emotion... just more so and more detailed.

4. Pay more attention to the different parts I usually don't think much about how the different layers are conceived separately I must not be the only person that sometimes thinks in colors and shapes.

5. It's easier to appreciate how all the parts come together when you first listen to them separately.

One participant mentioned listening skills for the younger generation:

1. How important it is to preserve listening opportunities and make them available for future generations.

Summary

In summary, this study indicated evidence of a change in non-musicians' interest in attending a Western art music concert after the treatments. In addition, this research suggested that the narrative music treatments had positive effects on students' music appreciation. Chapter VI provides an interpretation of the findings that were reported in Chapter V with respect to the absolute-music (represent no narration) group, the program-music (represent some narration) treatment group, and the harmony and polyphonic-texture (two or more independent layers played simultaneously with melody) analysis treatment group.

Table 12

Descriptives: Music Type

	Music Type		Statistic / Mean and SE
Pretest	Absolute	M	2.55 [2.21, 2.89]
		SD	0.93
	Program	M	2.67 [1.73, 3.61]
		SD	1.22
	All	M	2.58 [2.26, 2.89]
		SD	0.98
Posttest	Absolute	M	4.77 [4.14, 5.41]
		SD	1.73
	Program	M	5.44 [5.04, 5.85]
		SD	0.53
	All	M	4.93 [4.42, 5.42]
		SD	1.56
Total Interest	Absolute	M	3.66 [3.25, 4.07]
		SD	1.11
	Program	M	4.06 [3.57, 4.54]
		SD	0.63
	All	M	3.75 [3.42, 4.08]
		SD	1.03

Note. Numbers in square brackets are 95% confidence intervals for listed means.

Table 13

Two-Way Effects ANOVA: Music Style

Factor	Type III Sum of Squares	df	Mean Square	F	Partial η2
Within-Subjects Effects					
Time	87.31	1	87.31	68.43**	.64
Time * Music Type	1.06	1	1.06	0.83	.02
Error (Time)	48.49	38	1.28		
Between-Subjects Effects					
Intercept	830.72	1	830.72	390.53**	.91
Music Type	2.17	1	2.17	1.02	.03
Error	80.83	38	2.13		

Note. *p <.05. **p <.001

Figure 25

Pretest & Posttest for Absolute & Programmatic music

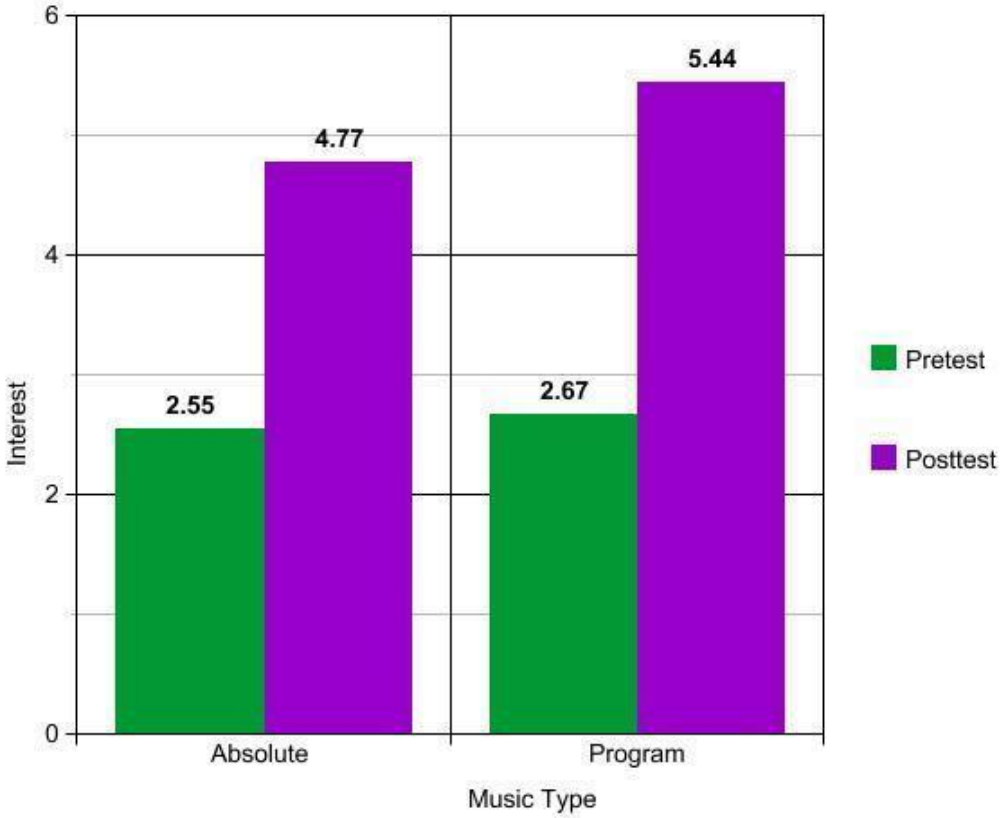
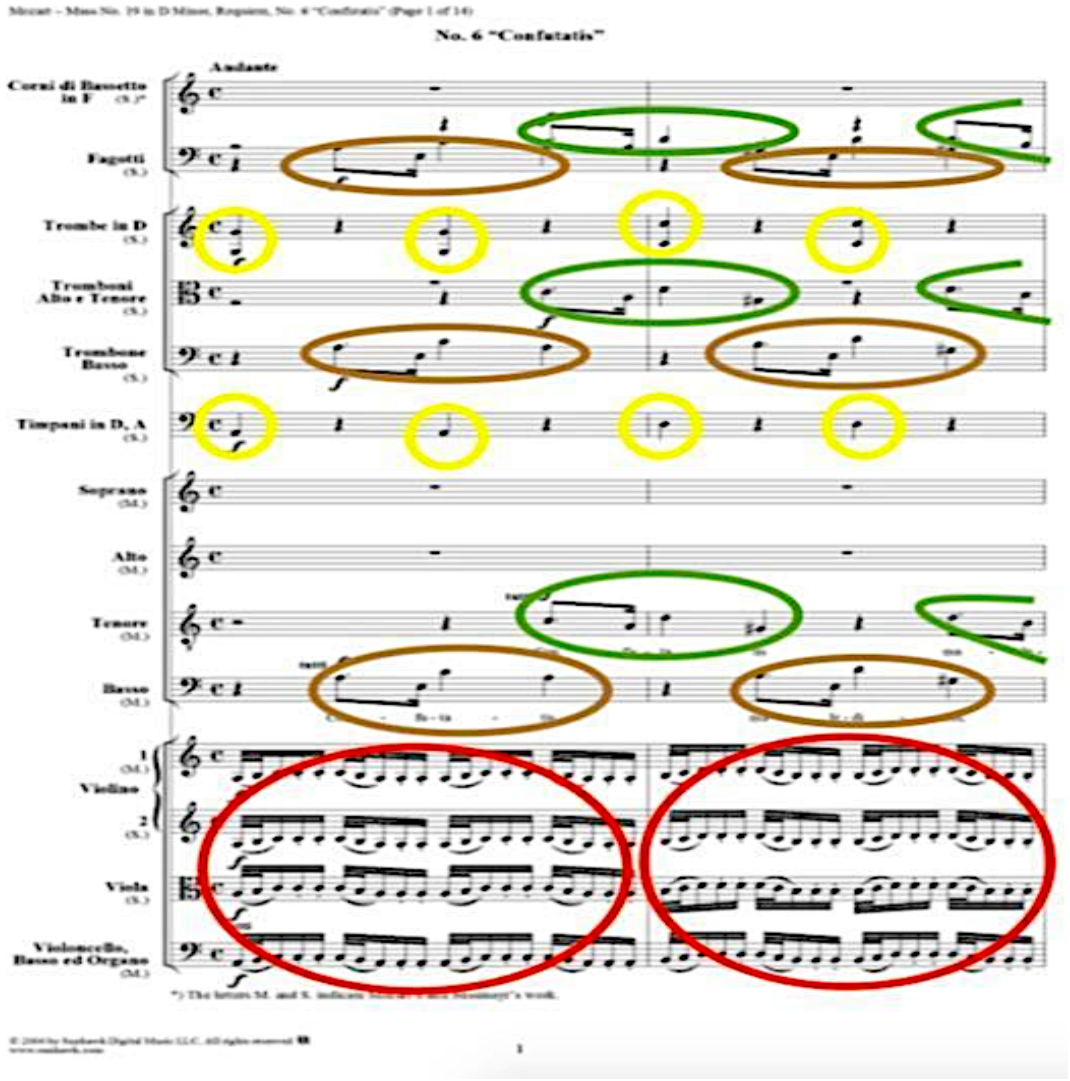


Figure 26

Mozart Requiem Confutatis



Chapter VI

DISCUSSION

Introduction

Chapter V included the data that came from my study on non-Western art music listeners. The aim of this study was to determine whether a narrative music listening activity would improve non-Western art music listeners' emotional responses to Western art music. In that experiment, participants wrote their listening responses in the pretest and the posttest, and the rubrics were used to evaluate the changes. Thus, I evaluated pretest and posttest changes in participants' interest in attending Western art music concerts. The study's overarching goal is to attract and create interest in Western art music to non-Western art music listeners, thereby bringing more audiences to Western art music concerts. However, for non-Western art music listeners to attend a Western art music concert, they must first have an interest in Western art music. Thus, in this experiment, I expected the participants to create imaginative events in music listening activities that would help them better enjoy Western art music.

There were three treatment groups in this study, and the main group was the absolute music (represents no narration) group. Next, I added the programmatic music (represents some narration) activity group and harmony and polyphonic texture (two or more independent layers played simultaneously with the melody) analysis activity group to compare them with the absolute music group results. Through the pretest-treatment-

posttest surveys, I introduced non-Western art music listeners to the skill of finding a story in Western art music.

In this chapter, I first analyze and discuss the results of the absolute music treatment. Following this, I address the different findings from two other groups and discuss what is effective in improving non-Western art music listeners' interest in attending Western art music.

Results from the Absolute-Music Group

RQ 1: Pre-post interest in going to a Western art music concert from the absolute-music listening group. I found that, overall, non-Western art music listeners' interest in attending a Western art music concert increased after participating in the narrative music listening activity. People showed low interest in attending a Western art music concert at the pretest and then moved to somewhat interested, interested, or strongly interested in attending a Western art music concert at the posttest stage. My narrative music listening activity allowed participants to build imaginary worlds in their minds as a result of creative music listening, which can turn Western art music into narrative music. Dufrenne (1973) claimed that listening requires creative skills to reorganize musical structures and the act of listening is an act of reconstruction of sounds. This narrative music activity helped non-Western art music listeners to obtain creative listening skills.

RQ 2: Aural memory. Recognition is the most straightforward type of memory task. Recognizing a stimulus tends to be easier than recalling it because the presentation of the stimulus provides a cue that can activate the original memory trace (Budiu, 2014).

I initially expected that the group of participants who correctly recognized music they had heard earlier would find emotion in this music when they heard it even before the treatment(pretest). When these memories are evoked, a person can often describe an autobiographical memory (Conway & Pleydell-Pearce, 2000). Therefore, I predicted the group of people who had aural memory would increase their interest in Western art music more significantly than those who did not. However, the data showed no difference in interest between people with aural memory and those without aural memory. This result indicates that aural memory may not influence emotion recognition skill.

In addition, I found that there was no difference in pretest and posttest mean scores, depending on whether a participant had aural memory. Thus, participants from both groups became more interested from pretest to posttest. According to Mather and Sutherland (2011), research findings about arousal effect are inconsistent. In addition, emotional arousal enhances memory for the object or a thing that has itself, but not for the details (Adolphs et al., 2005). On the contrary, Kensinger and Garoff-Eaton et al. (2007) found that whether or not emotion enhanced memory for the essence of the music and the details depended on how attention was directed during encoding.

In the current study, not having the aural memory did not influence non-musicians' emotional responses to Western art music and interest in attending a concert. Thus, I suggest that more research be conducted to determine how people encode aural memory with or without attention to detail. The narrative music listening activity helped both groups—with or without aural memory— gain interest in attending a Western art music concert. Thus, I believe my participants received implicit exposure to Western art

music elements during this narrative music listening activity. This supports the statement by Cleeremans et al. (1998), who argued that implicit learning does not require any effort; therefore, people without aural memory of the music still became more interested in attending a Western art music concert.

RQ 3: Major and minor keys recognition. In the literature review, I introduced Kratus (2017), who divided musical listening into convergent and divergent thinking. Convergent thinking allows for answers, such as whether the song is in a major key or minor key. This section was used to evaluate participants' key identification skills. The harmony of music (major or minor) and the tempo of a song (fast or slow) can invoke joy or sorrow in the listener (Patel et al., 1998; Peretz et al., 1998). In this study, the piano played a major-key and minor-key version of the classic children's song "Mary Had A Little Lamb" at the same tempo and volume. The minor-key version used lower pitches than the major key version to make the minor-key version sound more intense. To recognize the difference between major and minor keys in music, people need to acknowledge the emotion these keys evoke: major key music tends to evoke happy and cheerful feelings, whereas minor keys often sound more melancholy.

Based on the results, both participants who identified minor-key music and those who could not identify minor-key music increased their interest in Western art music concerts from pretest to posttest. I compared the pretest–posttest change for the group who was able to identify minor-key music versus the group who could not identify minor-key music. However, the interaction of the key recognition and interest was not significant in this test. That said, people who could and could not identify minor-key

music differed from pretest to posttest. When averaging all of the interest scores (mixing pretest scores and posttest scores), I found that participants who could not identify minor-key music had more interest in attending a concert than those who could identify minor-key music. Having the key recognition skill would not influence non-Western art music listeners' interest in attending a concert.

Scholars have indicated that even young children (e.g., age 5) can accurately recognize happy and sad excerpts, while recognition of other emotions (e.g., anger, fear, disgust) tends to be more difficult. However, prior research findings suggest that this skill improves with increasing age (Dowling, 2002). Whipple et al. (2015) showed that happy (harmony with major chord) and sad (harmony with minor chord) were generally the emotions most readily recognized in an experiment with children with hearing loss or ASD. However, study into the cognitive aspects of pitch analysis, such as harmonic analysis, is still in its nascency.

This narrative music listening activity did not provide any explicit music instruction teaching the difference between major and minor keys, but instead asked participants to create extra-musical elements, and find stories inside Western art music without any instruction. Krumhansl and Kessler (1982) showed that both explicit and implicit knowledge of music influences how harmonies are heard; however, my participants did not receive any explicit instruction. As Geringer and Madsen (1995) stated, the skill of recognizing harmony and tonality can be challenging for non-Western art music listeners who are not familiar with Western art music because the harmony used in Western art music is often complex. Emotion in music is programmed inside harmony,

and the desired emotions the composer created are in the composition. However, in this study, I found that non-Western art music listeners who could not recognize minor keys were able to become interested in a Western art music concert without explicit instruction to learn the difference between major and minor keys. This contradicts my hypothesis that the inability to recognize harmony might be an obstacle for non-musicians to appreciate Western art music.

Perception of harmonic recognition may be related to the cultural context within which the piece of music was written. It is possible that my selection of music, "Mary Had A Little Lamb," a nursery rhyme of 19th-century American origin caused trouble for some of my participants, as they may have believed that this music should be a happy song because it is a song for children. In my literature review, I introduced studies on understanding music and memory of associated events. It is possible that participants in this study were confused by the minor key in "Mary Had A Little Lamb" because this music reminded them of a happy nursery song. Thus, memories of happy childhood events may have interfered with their judgments. This could be due to an associative memory—remembering the relationship between two separate memory items (Jäncke, 2008). While it is a common assumption in cognitive science that major keys sound happy and minor keys sound sad (Answer Drive, 2019), this statement may need to be reexamined. Although my samples of major and minor keys had the same tempo, instruments, and volume, I could argue that major and minor keys are objective, whereas the happy and sad emotions attached to these keys are subjective.

RQ 4: Creative thinkers vs. analytical thinkers. Zalanowski (1986) demonstrated that enjoyment positively correlates with right hemisphere scores and negatively correlates with the left hemisphere even when listening instructions are given. Thus, Zalanowski claimed that right-hemisphere-oriented people (creative thinkers) enjoy and understand music better than more analytical thinkers under most conditions. According to my results, both participants who said they were analytical thinkers and those who said they were creative thinkers increased their interest in Western art music concerts from pretest to posttest. The average interest increased in both groups identically, showing that no matter what participants' thinking style was, interest at the posttest stage did not differ. As noted in Zalanowski's (1986) data, which I introduced in the literature review, left-hemisphere individuals (less creative thinkers) are currently disadvantaged in music appreciation exercises. However, based on my data, this narrative music listening activity increased people's interest in attending a Western art music concert for analytical and creative thinkers. In fact, people who said they were more analytical showed a significant improvement on the interest scale. This may be because narrative music listening activities introduce analytical thinking skills that may fuel the creative process required of narrative music listening. In addition, these listening activities, that encouraged non-Western art music listeners to recognize the extra-musical aspects in order to invent musical narratives, may enable my participants to enhance their listening competency by focusing on specific musical elements and sounds (Whitbourne, 2013). My participants needed an analytical mind to focus on specific musical elements

while listening to music, and this may have helped the more analytical participants have emotional responses to Western art music.

Results of the Treatment Section

RQ 5: Do non-musicians notice changes in music used in the narrative listening activity? Kratus (2017) introduced musical listening with divergent thinking. This treatment section included multiple choices, such as the images, conversation styles, and colors that came to mind while listening to the music. Thus, the treatment (narrative music listening activity) section demonstrated how each non-musician observed the music changes and therefore interpreted the music excerpts differently.

Further, the narrative music listening section of this activity was designed to help non-Western art music listeners to identify the emotion in Western art music using their original congruence (audiovisual structural overlap) association model (CAM) (Cohen, 2015). People who were able to actively participate in this activity, such as selecting colors for music, showed greater interest in Western art music than those who struggled to perform this activity. Providing multiple choices for this type of activity is ideal because perceived emotions and individually experienced emotions can be different from each other (Gabrielsson, 2002). However, in this study, one participant who was uninterested at the pretest and remained uninterested at the posttest clicked all of the selections in the activity and stated that this activity did not help him learn anything from the activity. Thus, multiple answers may lead to some uncertainty in participants and make them less confident. There is a possibility that some participants may have been confused by the music's tempo and tone. Tempo and timbre may play crucial roles in

people's perceptions of various harmonies. Lahdelma and Eerola (2014) found that their participants' feelings depended on timbres, such that the piano made them feel positive e emotions. In contrast, the sound of the strings led to melancholy, sadness, and other negatively based emotions. Fast rhythm and tempo are also often evaluated as pleasant when compared to a slower rhythmic tempo (Liu et al., 2018). Thus, the instrumentation and the speed of the music I selected may have led to influence the listener's emotion of the music.

Color

Bonetti and Costa (2017) selected two different pieces of music to study the emotional relationship between different colors and found that music in a major key was associated with lighter colors than music in the minor key. According to the color-music association research by Yokosawa et al. (2015), happy sounds elicited bright, vivid, yellowish colors whereas sad sounds evoked dark, grayish, and bluish colors (Yokosawa et al., 2015). However, Birren (1961) stated that color is interpreted differently in different cultures. Therefore, my color selecting activity had no correct or incorrect answers. I was more interested in assessing whether individuals chose different colors for different sounds.

For this study, blue was the most popular color that participants picked for the music excerpt with slow, descending notes (Music Excerpt 1). Participants selected black for music excerpts with ascending notes that played with new subject lines (Music Excerpt 2: fugal passage). In addition, Music Excerpt 2 added more volume with complex and aggressive sounds played simultaneously with the melody. The participants

noticed some composition changes, such as the tension between notes (harmony) and timbre and made those connections with similar color choices. This result supports Birren's (1961) findings that, although color associations can vary contextually between cultures, color preference is relatively uniform across gender and race.

Shapes

In Pilot Study 1, graphic notation was not a strong tool to help non-Western art music listeners understand music. Non-musicians who participated in a study by McLachlan et al. (2010) needed multiple training to connect graphic notation and musical information. Therefore, this shape selecting activity had no correct or incorrect answers. I was more interested in understanding whether individuals selected different shapes for different sounds.

Up and down was the shape chosen most for Beethoven's funeral march theme (Music Excerpt 1), and different short sounds were chosen most for its fugal passage (Music Excerpt 2), which contains trills and a series of short-note counter subjects that intensify the music. These participants, who said they were interested in attending a Western art music concert after the treatment, chose sound rising and different short sounds the most for the fugal passage. A majority of the participants who said they were not interested in attending a Western art music concert after the treatment selected sound rising for the fugal passage. This suggests that these groups of participants gained interest after the treatment and had noticed the composition style changes while listening to Music Excerpt 2. The fugal passage had a rising sound, but there were complex layers of sounds, which included short notes, intense rhythmic notes playing in the background.

Jäncke (2008) introduced different methods of writing down pitches, and this activity introduced representing musical sounds in the form of colors and shapes.

Adjectives

In the study by Boltz (2009), participants circled the randomly arranged adjectives that best described the set of stimuli (music) they heard to test a recognition memory paradigm. This narrative music listening activity provided Hevner's Categorization of emotions which contains 66 words to introduce associations and relationships between musical elements and emotion.

Words from Group 3 (i.e., dreamy, yielding, tender, sentimental) and 2 (i.e., pathetic, doleful, sad, mournful) in Hevner's (1936) Categorization of Emotions were the most common words chosen by both groups—participants who showed interest in Western art music after the treatment and participants who showed no interest in Western art music after the treatment, for Beethoven's funeral march theme (Music Excerpt1). Words from Group 2 were chosen most for Music Excerpt 2, which was louder, contained a complex harmony, contained multiple layers of voices, and contained aggressive tones. This result suggests that people's adjective perception of music was unified, and it supports the conclusion of the study by Zentner et al. (2008): that certain music evokes some emotions more than others.

Conversations

Cooperative-two-way and cooperative-one-way were the most selected conversation types for the funeral march theme. Then, there was a switch to competitive-

one-way when the fugal passage was introduced. Participants noticed the tone changes in this activity. In a competitive conversation, people give more attention to their own perspective. However, in a cooperative conversation, people are interested in involving everyone (Angel, 2016). The funeral march had one identical melody, while the fugal passage had layers of passages with a modified funeral march theme.

Find the Similarity

Music similarity algorithms used for Spotify use convolutional neural networks that use data to identify similarities in key, mood, tempo, and loudness of audio tracks. Therefore, Spotify's playlist chooses music and plays hours of similar music. My participants who were able to find some similar characteristics from two compositions in this study were able to find and identify musical elements. Still, three out of four participants who had difficulties finding similarities between the different composition styles showed interest in attending a Western art music concert at the pretest. Thus, this narrative music activity may have helped the people who could not connect similar compositions to gain interest in Western art music.

Main Research Question: Can Narrative Music Listening Activity Help Non-Musicians Discover Emotional Responses to Western Art Music?

Written Response: Quantitative (Absolute Music)

There are four concepts in the psychology of creativity, according to Kratus (2017). These categories are fluency, flexibility, elaboration, and originality. In the pretest and posttest, my participants were asked to write about the music they heard. The

number of words in their responses were counted and measured by using rubrics with Kratus's categories. The data showed that people addressed flexibility (musical elements associated with emotion) after the narrative music listening activity on posttest music listening responses. Both groups showed interest in a Western art music concert at the posttest stage, and the group that showed no interest in a Western art music concert during the posttest wrote more words in their posttest music listening responses and thus increased their flexibility. Therefore, this narrative music listening activity helped participants express their emotions in written style regardless of their interest level.

Based on the results, the group of participants who gained interest and the group of participants who did not gain interest in attending a Western art music concert added more details in their posttest written responses than they did in their pretest responses. In addition, the data indicates that the quality of posttest music responses, use of both fluency (write about things they hear, think, or feel) and flexibility (musical elements associated with emotion) from both groups was the same. People who did not show interest in attending a Western art music concert were still able to put more effort into their written reflections following the narrative music listening activity compared to those they wrote during the pretest.

Various studies of individual musical response suggest that untrained musicians identify specific musical characteristics when assessing musical unity and that these are similar those referenced by trained musicians (i.e., changes in volume, tempo, texture, mood, silences, or climax). In addition, untrained musicians are more likely than trained musicians to report non-musical associations and connect the music with images or create

storylines to accompany the music (Kerchner, 2013). This activity's written responses gained more words at the posttest because this activity was designed for non-Western art music listeners to develop extra-musical associations in discovering the original narrative with music.

Written Response: Qualitative

The purpose of the written responses in this research was to determine how participants responded verbally to unfamiliar music excerpts when asked questions that encouraged interpretive responses before and after the creative music listening activity. Imagination can be expressed through narrative fiction stories (Goldman, 1998). This narrative music listening activity generated extra-musical elements when participants were listening to and analyzing music. In the current study, the participants who were even not curious about Western art music showed improvement in writing reflections about the music with original storylines. This suggests that the group of non-musicians who showed less interest in going to Western art music concerts were able to develop sympathy and emotional understanding by actively listening to Western art music. As Eisner (2002) suggested, students need to let their imaginations fly and allow their creative faculties to advance rather than gaining skill in analyzing music.

The majority of participants provided one-word answers, such as "sad" or "love," to express emotion in their pretest music listening responses. However, following the narrative music listening activity, regardless of their level of interest in attending a Western art music concert, participants used more words in their responses. They added sentences to explain musical elements that were related to their emotional reflections.

The posttest music listening responses demonstrated the effects of the narrative music activity. At this stage, participants were asked to examine music carefully and choose colors and shapes that fit the music they heard. In this activity, people paid more attention to details on what they heard and found extra-musical aspects in the music. For instance, some participants could discuss the background sound played along with the melody not in the pretest music but in the posttest music. The quotes in the Results section clearly indicate that these participants became more analytical of what they heard in the music.

Additionally, participants added stories and titles in posttest music listening, which no one did during the pretest in this study. In the narrative music listening activity section, participants were also asked to examine music carefully and choose conversation styles that fit with what they heard. By completing this activity, participants were able to find stories in the music they listened to during the posttest. In addition, participants created stories from music listening and explained how these stories developed and changed. Some added subtitles to the music; and some added explanations of what and how musical elements (e.g., sound high/low, melody, blending of simultaneous sounds, rhythm, tempo, short/long notes, heavy/light notes) evoked specific emotions.

The written responses showed significant differences between the pretest and the posttest. Before the activity, people wrote one or a few words in the response box. However, in the posttest, participants noticed and wrote down the changes in music, such as those in the harmony and polyphonic texture. Furthermore, flexibility (musical elements associated with emotion) increased in almost all participant responses in the

posttest. Additionally, they put more effort into coming up with original stories, film narratives, and conversations about the music. Finally, participants shared that they learned to identify musical elements using colors and shapes and find emotion in the music elements. In addition, they commented that this was entertaining and fun to do.

Larsen and Whitaker (2013) demonstrated that adult participants who ranged in age from 28 to 77 years old, with less musical knowledge, commonly used "speed of the music" and "tune higher and lower" to comment on various aspects of the music. According to Larsen and Whitaker, other study participants who were familiar with musical composition gave more detailed descriptions than those who were unfamiliar with composition. My participants were all non-Western art music listeners and could not express detailed reflections at the pretest, but there was significant improvement at the posttest. However, I was expecting to get slightly better responses at the pretest from my participants. The use of extra-musical references was consistent with the results of other studies by Larsen and Whitaker. Yet, my participants were able to put effort into adding extra-musical responses only after the activity but not before. The participants in the study by Larsen and Whitaker were described as "less musical" people. However, it is unclear whether they were non-musicians or non-professional musicians. My participants were volunteers with no musical training and did not write extra-musical responses during the pretest. However, one possible reason for this may have been the length of excerpts. Kerchner (2013) used excerpts that were between 3 and 5 minutes long, whereas my participants listened to four music excerpts between 12 and 20 seconds long. Thus, it may be possible for non-Western art music listeners to note extra-musical

references during the pretest, but the length of the music may need to be longer than 8 to 16 bars.

When selecting the matching imaginations and emotions for the music in this online music listening activity, the participants tried to search for the story that influenced the inferences (guessing or interpreting emotion). The items that are remembered from an imaginative scene and music will be stored together in the long-term memory. Thus, I believe that my participants may recall and use their experience with this activity when they hear symphony music at other times. My results support the assertion by Cohen (2015) that untrained ears learn the emotions associated with certain flavors of Western art music. Association makes music meaningful (Cohen, 2015). This study introduced ways to find narrative in Western art music to non-Western art music listeners. I intended to design a music listening activity to attract non-Western art music listeners to Western art music concerts, and my results indicate that my participants' interest in attending Western art music increased at the posttest stage. Thus, participants in this study found narrative in Western art music, engaged with this new style of music, and wanted to experience more meaning at live Western art music events.

Participants' Experiences of the Narrative Music Listening Activity Using Absolute Music

RQ 6: Do narrative music listening activities help non-Western art music listeners discover new ways to appreciate Western art music? Kucera (2015) stated that hearing is a passive process that does not use the active portion of the brain. However, comments from the survey in the posttest showed that this narrative music

activity was stimulating because it introduced how to engage with music and was somewhat entertaining. For all of the participants, associating music with colors, shapes, and adjectives was a new way to find musical emotion and discover hidden details inside the music.

Few participants stated that Western art music is more than just "relaxing." This may have been attributable to the preexisting stereotype that Western art music is soothing or relaxing rather than to personal experience of this genre of music as relaxing. Thus, in music listening, non-Western art music listeners need to set aside any assumptions or biases they may have and form new opinions based on what is presented. Abraham et al. (2017) stated that stereotyping affects people's emotional associations with music. Tong et al. (2016) and Rizkallah (2009) discussed the negative stereotypes of Western art music, which is why some view it as a luxury for the elite and wealthy. However, none of my participants mentioned that Western art music is for the older upper class. The participants in my study were from New York City where the median household income ranged from $130.3K to $193.9. Thus, the participants were in the upper class in their 20s and 30s but had no musical training. Barrett (2007) stated that social class creates the way, and the types of music people engage with. It is possible that my participants, therefore, would have been unlikely to state that Western art music is for the upper class. However, a few of them stated that Western art music is relaxing, which I can interpret or indirectly translate as a belief that Western art music is not for young, energetic people. In selecting the music excerpts with different tempos, rhythms, and harmonies, my intention was that participants may realize that Western art music is not

elevator music or background music. Instead, I hoped participants would recognize their own favorite styles in wide selections of art music.

Some participants were amazed to discover the power of different musical sounds that can change one's emotions in such a short period, and there were many responses that translated musical elements into emotion. For example, participants used words such as "long /short" or "low/high" to connect the music with feelings such as "serious/ happy." Based on these participants' reflections, the narrative music listening activity introduced new ways to find different layers in music by selecting imaginary shapes that matched with music excerpts. In addition, some participants stated that Western art music fits scenes from modern films. This activity helped non-Western art music listeners be able to identify the musical emotion of Western art music using the CAM (audiovisual structural overlap) of music. This activity allowed participants to find connections between music, visual imagination, emotion, and dialogue; and the participants' responses suggested that they learned to make this connection successfully.

Results from the Programmatic music Group

RQ 7: Will the narrative music listening activity increase non-Western art music listeners' emotional and cognitive engagement? The participants who participated in creative music listening activities using programmatic music had higher complication rates than those in the absolute music group. The programmatic music activity had visual information—ballet, specifically. This visual information may influence participants' attention to stay on the activity.

Although more people stayed and completed the programmatic music survey than the absolute music survey, programmatic music participants showed slightly lower increases in their interest in attending Western art music concerts. However, overall, the average participants showed a gain of interest in attending a Western art music concert after the activity, those with low interest in attending a Western art music concert at the pretest stage showed significant growth. The change in interest in attending a Western art music concert using the programmatic music activity was not much different from the change of interest following the absolute music activity. Thus, based on the results, the extra-musical elements (visual aids and narratives) used with the programmatic music group were not a major supporting factor in attracting non-musicians to Western art music concerts.

Welch (1999) stated that the presence of visual media impacts music cognition. The findings from this narrative music listening activity study showed that a majority (71.88%) of participants who listened to programmatic music with ballet in pretest were able to recall the same music in the posttest, whereas 57% of participants who listened to absolute music without visual images were able to recognize the same music in the posttest. This result indicates that the extra-musical visual aids in the programmatic music treatment helped aural memory. This supports results from my Pilot Study, which showed that film music assisted people's instant recall. Boltz (2009) explained that music for attentional highlighting could lead to a more integrated memory code that enhances recall of a film. The participants in the programmatic music activity showed greater aural

memory than those in the absolute music activity possibly because of the inclusion of extra-musical elements (story/image or idea with the music) in the musical excerpts.

In the written section, participants in the programmatic music activity used the word "story" frequently for posttest responses. Videos of ballet played with music inside the programmatic music activity gave a visual storyline. A musical narrative is like a storyteller representing all the characters in the storyline (Almén, 2017). Programmatic music is about an object, text, or story related to an additional idea (Kregor, 2015). The extra idea can help capture the audiences' emotions. On the other hand, absolute music involves writing music for the sole purpose of entertainment, and the composer does not include extra ideas in the piece (Pederson, 2016). In addition, programmatic music is often used for the soundtracks of movies to depict the characters and the activity, thus fortifying, enhancing, or qualifying the words or pictures (Kregor, 2015). This results from viewing the video's storytelling with programmatic music, which is the CAM. Neumeyer (2015) stated that audiences create and experience a meaningful story from the material of a film. Similarly, the participants of the programmatic music activity created stories from watching the ballet along with the music. Music is what merges with words or images to create a meaningful, representational whole.

Results from Harmony and Polyphonic Texture Analysis Treatment

RQ 8: Will non-Western art music listeners write detailed responses after the narrative music listening activity introducing polyphonic texture? People who participated in the narrative music listening activity using harmony and polyphonic texture analysis showed an understanding of layers in music compositions. Additionally,

they wrote about multiple elements by adding plurals such as “stories,” “conversations,” and “sounds” in the posttest written responses and described newly discovered composition techniques. Emotion recognition in musical listening improves one’s ability to imagine a conversation between musical instruments when multiple layers are played simultaneously, which is the definition of polyphonic texture. In this study, participants developed detail-oriented listening skills from the polyphonic texture analysis activity. A narrative or story accounts for a series of related events or experiences, whether real or fictitious (Carey & Snodgrass, 1999). This polyphonic texture music listening activity generated complex imaginative narrative stories. Imagination can be expressed through fictional narratives (Goldman, 1998). Fiction is not based on facts and is generally a narrative form that is imaginary. The imaginary conversations in narrative stories allow participants to listen to music from different angles.

Compared to absolute music and programmatic music responses, participants in the polyphonic texture analysis activity showed the most developed written responses during the posttest. For instance, their sentences were longer than other groups’, and they explained what they had learned in detail. Some expressed that this activity had taught them to pay more attention, experience mental images, and listen to complex music more easily. Some participants who struggled to listen to the polyphonic texture music said that they needed to do this activity again. As mentioned previously, the inability to recognize harmony was not an obstacle for non-Western art music listeners to appreciate Western art music. This result from the polyphonic texture analysis raised the question of whether

it may not be harmony but complex polyphonic texture in Western art music that is an obstacle for non-Western art music listeners in appreciating Western art music.

Fujioka et al. (2005) researched the difference between the automatic encoding of polyphonic melodies in musicians and non-Western art music listeners. It is common for music elements to be presented in multiple layers within the same track, especially when it comes to Western art music. The musicians from the study by Fujioka et al. scored higher in recognizing melodies as a part of polyphonic texture than his non-musicians. Yet, my study demonstrated that it was not overly challenging for non-Western art music listeners to distinguish between different melodic lines.

Polyphonic music has connections to both attention and memory systems (Särkämö et al, 2008). Listening to polyphonic music requires the human ability to analyze an auditory scene (Janata et al., 2002). My narrative music listening activity using polyphonic music helped non-Western art music listeners' creative music listening experience the most compared to the absolute and programmatic music excerpts. These results indicate that more studies should be conducted on polyphonic music listening because this might be the key for increasing non-Western art music listeners' interest in Western art music.

Implications

Music education is often an elective in junior and senior high schools in America, and I rarely see music appreciation programs in their music class curriculum. Western art music has complex structures compared to popular music, and it can be difficult for educators to introduce this to non-Western art music listeners. In addition, it is often

difficult for adults who have no background in formal music education to start learning to play music. However, the results of this research indicate that music listening skills can be improved quickly using multimodal technology activities. Multimodal emotion recognition is a discipline that can be used to include text inputs, as well as sound and video. Thus, the music in these activities does not need to employ a visual aid, such as film music, opera, or ballet. While this study and Pilot Study 2 support the assertion that visual information in music helps aural memory, but non-Western art music listeners who had no aural memory were able to gain interest in going attending Western art music concerts as much as those with aural memory.

If non-Western art music listeners learn how to listen to Western art musical elements associated with emotion, they will gain creativity and empathy from any type of Western art music. In addition, they will be able to form original interpretations of the music and thus gain interest in Western art music. Overall, the findings suggest that the narrative music listening skills training, using multimodal technologies, was successful. While not every non-musician gained an interest in attending a Western art music concert, but the pretest written responses proved that even the people who were not interested in attending these concerts learned from this activity. According to Neumeyer (2015), musical appreciation is enhanced by the CAM (the congruence-association model) and this narrative music listening activity generates extra-musical elements when participants are listening to music. Participants created and experienced a meaningful story from this narrative music listening activity. Active music listening is a creative activity in that the listener constructs a uniquely personal musical experience (Kratus,

2017). Participants of this research seemed to understand that they needed to recognize the extra-musical elements in order to invent musical narratives.

Before thinking creatively about the music a person listens to, he or she must first understand it. This requires the ability to examine musical elements carefully. Harmony (musical note relationships) conveys the emotion of music, but for non-Western art music listeners, based on the findings in this study, the technique of discovering polyphonic texture (the layers of musical background lines) may help them more easily understand Western art music. Dufrenne (1973) suggested that the act of music listening is an act of reconstructing sounds. This narrative music listening activity was brief, but non-Western art music listeners put effort into understanding layers of sounds, imagining a visual image, and assessing their corresponding emotions. Additionally, they made efforts to imagine the stories that came to mind from their analytical listening. Fictional words are initiated by literary and pictorial portrayals. One can arguably wonder whether music has fictional denotations (Walton, 1994). For my participants, the characters in the fiction were components of the music.

The final chapter concludes this study and outlines some suggestions for future research in Western art music appreciation.

Summary of the Results

"*Audiences are looking for 'events' that combine music and visual spectacle*."

- David Newman

Narrative music listening is a divergent thinking activity that results in multiple answers, such as the images of dialogues that come to mind while listening to music. Throughout this process, non-Western art music listeners were able to obtain emotion recognition from musical elements. The divergent activity helped introduce creative listening to non-Western art music listeners. Kratus (2017) suggested that such an ability helps students develop different skills and encourages their diversity. Therefore, this music appreciation activity introduced non-Western art music listeners to higher-level thinking skills during music listening. Music can induce listeners' emotions, and music subconsciously shares moods among people because moods are contagious. This human communication phenomenon is called emotional contagion (Juslin & Västfjäll, 2008).

Larsen and Whitaker (2013) stated that the use of repeated hearings of each piece of music resulted in different responses for some participants. Several of the participants expressed an awareness and verbalized more about their feelings and extra-musical associations during the first listen, followed by responses about the musical materials during the second listen. My participants listened to each music excerpt at least three times during the treatment activity section. This study already supports narrative music listening and encourages a variety of response modalities when non-Western art music listeners participate in the creative listening activities. However, repeated participation in

this activity may improve their written responses and their interest in attending Western art music concerts.

Chapter VII

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary of the Results

One of the findings from this study is that non-Western music listeners' interest in listening to Western music increased after participating in the narrative music activity. There was low interest in listening to Western music at the pretest, but there was an increased interest from all participants at the posttest stage. Listening to narrative music allowed the participants to build an imaginary world that turned Western art music into a narrative piece. Listening embraces creative skills to reorganize musical structures. The narrative music activity helped non-Western art music listeners obtain creative listening skills.

My second finding was on aural memory. I expected the group that recognized the music they heard initially to find emotion in the music in the pretest. I believed that the group with aural memory could have more interest in Western music than their counterparts. The results showed no difference in people with aural memory and those without; hence aural memory does not influence emotion recognition skills. I also found that aural memory has no impact on the mean-level difference in pretest and posttest scores. Therefore, the participants in both groups became interested from pretest to posttest. Arousal effects are inconsistent, and thus arousal enhances memory for the subject rather than the details (Mather & Sutherland, 2011). Emotional enhancement in music depends on the encoding. Since having aural memory does not influence emotional

response to western music, I recommend further research to establish how people encode auditory memory with or without attention to detail. Implicit learning does not require much effort, and therefore, people with aural memory still got interested in attending a Western art music concert.

The third finding was on the recognition of the major and minor keys. The tempo and the harmony of music can evoke sorrow or joy in the listener. The piano's major keys tend to produce a happy and cheerful feeling, whereas the minor keys sounded more melancholic. The interaction of the key recognition and interest was not significant in the test. The people who could not identify minor-key music had more interest in the Western art music concert. Young children can easily recognize happy and sad excerpts but have difficulty recognizing other emotions such as fear and disgust. A happy (harmony with major chord) and sad (harmony with minor chord) were generally the emotions most readily recognized in an experiment with children with hearing loss or ASD (Whipple et al., 2015). Narrative music listening did not provide explicit music instruction between major and minor keys, but instead, the participants wanted to find stories within the Western art music concert. The inability to recognize harmony might be an obstacle to non-musicians appreciating western art music. Harmonic recognition perception may relate to the cultural context in which the piece was written. They are also associated with the memory since it interferes with the judgment due to associative memory. I could argue that minor and major keys are objective while the sadness and happiness emotions attached to it are subjective.

My fourth finding was that the creative and analytical thinkers increased their interest in Western art music concerts from pretest to posttest. The average interest increased in both groups no matter their thinking style; hence there was no difference in the posttest stage. Listening to narrative music grew the interest of analytical and creative thinkers increased their interest in attending the Western art music concert. The analytical thinkers showed more interest in the music concert because analytical thinking skills fuel the creative process crucial in narrative music listening. My participants needed an analytical mind to focus on specific musical elements while listening to music. The situation may have helped the more analytical participants have emotional responses to Western art music.

Summary

The purpose of my research was to determine whether a narrative music listening activity treatment would improve non-Western art music listeners' emotional responses to Western art music. The results suggested that, although this online treatment took an average of only 18 minutes for my participants, those who indicated a low interest in attending a Western art music concert before the treatment showed a significant increase in interest in Western art music concerts during the posttest. The participants who could not write too much of a music reflective response in the pretest showed they were able to write more after the treatment. This online narrative music listening activity introduced new listening skills that supported non-Western art music listeners' music listening abilities and gave them analyzing skills to successfully translate musical emotions.

The challenge for symphony orchestra groups is to gain and keep non-Western art music listeners' interest in Western art music. The present study was conducted to find solutions for a primary problem that symphony orchestra groups face, that is, the decreasing attendance by new young audiences of Western art music concerts. Therefore, American orchestras that wish to attract younger adults must focus on the learning needs, attitudes, and preferences of the younger generations. One parent in New York City School district 2 informed me that his children's school's orchestra outreach program field trip got canceled because the public school could not afford school buses. If transportation is a problem, maybe a small chamber music group can visit schools, or teachers can introduce online music appreciation programs such as narrative music listening activity and let students share their experiences.

For non-Western art music listeners to appreciate art music, learning the structure of music perhaps should not be the center of focus. In this study, I found that people without aural memory, major/minor harmony key recognition skills, and a creative thinking style showed an improvement in emotion recognition in music listening following the treatment. The programmatic music (representing some narration) activity supported the participants' imagination so they could create stories. The polyphonic texture (two or more independent layers played simultaneously with melody) activity introduced my participants to analytical listening without getting any music theory training.

This research prompted additional questions worth considering. One question resulting from this research is whether convergent-thinking materials for music, such as

identifying major keys or minor keys or reading notation, helps non-Western art music listeners better appreciate Western art music concerts. Another question is whether divergent thinking helps attract these listeners to Western art music concerts.

Cognitive and Emotional Engagement

People use creativity to determine original solutions to ideas. Divergent thinking can lead to many possible solutions using creative ideas. Convergent thinking, on the other hand, solves problems using logic and knowledge. Elliot (2009), an American musician and academic, believes that music appreciation is practical because understanding music requires experience in both music performance and music theory. Considering the assumption that a person cannot effectively listen to music without some experience in playing music and knowing music theory. However, critics argue that music appreciation courses places too much emphasis on works of music (Barrett, 2007). In this study, I found that creativity needs both divergent thinking and empathy, which are related. Thinking skill in music listening is necessary because the listener must have the emotion recognition to share the feelings the music produces. According to the findings from this study, emotion recognition is related to the intensity of emotional responses to music.

Convergent Thinking

Convergent thinking is a type of thinking that searches for a single answer to a problem (Kratus, 2017). Teaching how minor-key relationships differ from major keys helps non-musicians learn to distinguish acoustical differences. In teaching music

notation, we can introduce students to the same musical information and rules that performers use. These are excellent skills for convergent thinking because of their logical validity. In addition, convergent thinking is necessary to help non-musicians evaluate and analyze musical materials. Western art music has complex harmonies and layers of melodies (textures), which are not often found in modern popular music. According to the literature, traditional music appreciation classes at colleges provide composition methods to non-musicians so that they can master musical theory and learn history that will synthesize knowledge and experience to develop music appreciation models. Music listening requires analytical thinking, and convergent thinking supports non-musicians' analytical skills.

The results from this research showed that breaking down the elements of polyphonic texture made it easy for non-Western art music listeners to listen to complex Western art music pieces, even though the activity did not include any music theory instruction. A narrative music listening activity using polyphonic texture may be introduced to participants in the future to develop the skills to analyze the detailed work of composition. Analytical skills supported by some unique convergent thinking techniques in music listening, such as being able to hear layers of musical lines played simultaneously, can be used to appreciate Western art music. Elliot (2009) stated that music appreciation education needs to emphasize theory of music. However, aesthetic philosophy sees music appreciation as the education of feeling. I argue that music appreciation education cannot be over-focused on fundamentals of music such as music theory and composition. I agree that music appreciation education cannot just teach

music theory and history. However, giving analytical skills to discover complex harmony and texture inside Western art music can help non-Western art music listeners appreciate this music genre better.

Divergent Thinking

Divergent thinking is the type of thinking that looks for and accepts many possible solutions Kratus (2017). Music appreciation requires the development of aesthetic sensitivity – the ability to respond to emotional values and cognitive meanings in art (Barret, 2007). The participants of this research converted Western art music into colors, shapes, dialogues, and stories using analytical thinking during the experiment section of the survey. The approach of introducing non-Western art music listeners to ways of creative listening helps non-Western art music listeners understand musical compositions using divergent thinking. This treatment did not teach participants any fundamentals of music. However, it showed that introducing the skill to discover polyphonic texture in Western art music is helpful for non-Western art music listeners in processing Western art music. Creative listening needs to go along with divergent thinking skills so that listeners can analyze the complexity of Western art music.

Introducing Emotional Response to Western Art Music

Teaching music theory, harmony, history, and notation helps non-musicians in music appreciation classes learn about music but feeding students pieces of musical information for convergent thinking should not be the only strategy in music appreciation classes. Encouraging non-Western art music listeners to participate in a narrative music

listening activity may allow them to be more analytical, imaginative, and higher-level thinkers who can thus appreciate Western art music more without instruction on the fundamentals of music.

My pilot study showed that reading a music score requires training to master the rules, such as chords, and is not easy for non-Western art music listeners. However, my narrative music activity research results showed that non-Western art music listeners who could not identify minor keys showed a stronger interest in attending a Western art music concert than those who could identify minor keys. I also found that having an aural memory or remembering music that they had heard before or not, did not affect non-Western art music listeners' interest in attending a Western art music concert. These research results indicate that teaching non-Western art music listeners to become divergent and creative thinkers encouraged them to attend a Western art music concert because music listening was authentic—each listener created their own unique music listening experience. However, this research also demonstrated that introducing some fundamentals of music such as polyphonic texture can help non-Western art music listeners process Western art music better. Introducing techniques of complex musical composition helped participants gain an interest in attending a Western art music concert.

Reimer (1997) stated that active music listening stimulates the imagination. Divergent thinking involves interpreting multiple ways to process information by making unexpected combinations, recognizing links to associate with others, transforming information into forms, and exploring possibilities (Guilford, 1967). This narrative music study introduced people with no musical training to divergent thinking skills that

encouraged metacognitive learning so that they could understand their thoughts while listening to Western art music. Both divergent and convergent thinking should work together so that non-Western art music listeners can discover their own way of thinking while listening to music.

Recommendations

Recommendations in Practice

Based on the study findings, neither aural memory nor musical key recognition skills were as important as I expected. On the contrary, narrative music listening activities helped both participants who could not recognize minor keys and people without aural memory become more interested in attending live Western art music concerts. Therefore, instead of introducing music theory and history, music appreciation educators may want to discover the keys to developing non-Western art music listeners' divergent thinking.

Divergent thinking skills allow non-Western art music listeners to determine the emotions they experience while listening to music by brainstorming and imagining colors, shapes, and imaginary adjectives. Thus, narrative music listening activities enable listeners to develop an original story to discover the emotional information in the music. Music educators can introduce this narrative music activity as exercises that stimulate non-Western art music listeners' creativity and creative thinking. Non-Western art music listeners may be able to develop a creative, imaginative habit when listening to music. This online narrative music listening activity could lead non-Western art music listeners

to a new habit of active listening, a creative activity technique that requires the listener to absorb, understand, respond, and retain music and create a uniquely personal musical experience.

The interest in attending a Western art music concert might not be limited to programmatic music such as film scores. Programmatic music presented with the ballet video assisted aural memory, and it attracted participants enough to complete the survey. However, the posttest interest in attending art concerts was the same as participants who listened to music without visual aids (absolute music). This suggests that symphony orchestra directors may not need to add film music to their programs to gain more attendees and that they may attract more people to their programs by implementing narrative music activities. Non-Western art music listeners could gain the ability to create their own narratives and remember a musical piece based on a visualization while listening to Western art music after participating in this narrative music listening activity.

Based on my literature review, symphony orchestras need to attract more non-musicians to their concerts. This acknowledgment is important in addressing the key issue, which is getting younger audiences to love and appreciate the genre. To bring more audiences, music educators may be able to provide audience education. For busy young professionals, it is often difficult to attend an open rehearsal to learn about orchestral pieces. Additionally, these people may not have time to read concert programs to learn about a composer and the story behind the music. Narrative music listening skills can be learned quickly and effectively in an entertaining way if online narrative music listening

programs are included in orchestra's season program websites. Music educators could collaborate with orchestra groups to create narrative music listening activities.

After music educators establish the narrative music listening activity program, these self-paced activities would allow participants to log in when it is convenient for them and develop creative listening skills without a full-time music educator or formal class. Music listening can be interpreted in many different ways, depending on the individual. Instead of in group lessons, music listening can be done in an individual online learning environment.

Eliminating the Eurocentric image of Western art music might be a challenging task for music educators in America. Silverman (2009) addressed the difficulty of teaching Western art music in racially diverse classrooms. Yet, Zander believed Western art music is for people with all different backgrounds and disciplines. Maybe it is time for American music educators to eliminate the stereotype that Western art music is strongly Eurocentric and teach students that it is not superior to or more fundamental than any other musical tradition. This is something all music educators need to discuss.

Recommendation of Online Activity for Orchestra Groups

The online activity's multimodality served as an introductory tool for non-Western art music listeners to become convergent thinkers and better appreciate Western art music. Orchestra groups could introduce Western art music to new audiences who are the participants of this online narrative music listening activity. Orchestral organizations could use narrative music listening activities, such as those in this study, in their educational programs to try to increase attendance for those who are not curious enough

to or too busy to sign up for a music appreciation class. In addition, these groups could include this activity on their websites, using their season concert programs. Schäfer et al. (2013) explained that people listen to music to arouse certain moods and help them become aware of themselves. Thus, new audiences can listen to pieces that will be performed in the next season, explore extra-musical associations, find their favorite phrases, become more self-aware, and then become new subscribers. The conductor could possibly give a brief online overview of the music they are about to hear, such as when it was written, a little bit about the composer and the era of the piece (Baroque, 20th-century, etc.), and share his/her emotional recognition with new audiences. This is one of the cultural changes Dare (2017) suggested, which is to create a sense of togetherness and a joyful experience to connect music and audiences. This experience of discovering new ways to listen to Western art music online can be used as an emotional recognition game as well.

This narrative music listening activity shares some similarities to emotion recognition games or brain intelligence games. Both introduce people to identifying feelings and emotions. As stated previously, online skill training games are popular among adults (Gough, 2019), and the brain training games made adults feel sharper (Whitbourne et al., 2013). Blood et al. (1999) presented facts about the emotional analysis of music listening and brain activity. The narrative music listening treatment in this study worked as a brain training game. In addition, my participants, who may be parents or aunts or uncles of young children, may significantly impact children's development (Worthman, 2016). Thus, I predict that young professionals who participate

in online narrative music listening activities will introduce Western art music and these emotion recognition skills to younger generations. As a result of including narrative music listening activities on the orchestra's websites, more younger generations may attend their live concerts more frequently.

Recommendations for Future Design

Multimodal technologies may provide ways to design narrative music listening experiences for non-musicians. However, one possible difficulty in creating technology-based learning systems for narrative music listening is the size of audio files. Audio contributes a great deal to file size in multimedia designing. Downloading large audio files that are used in this activity may crash systems. Therefore, with current technology, music excerpts should be short. That said, participants may find it frustrating to be unable to capture the whole idea of the musical piece they listen to. Thus, participants should be introduced to the specific section of the music that portrays the composition's uniqueness. All this in mind, music excerpts should be selected by musicologists and theorists to achieve the results the researchers may want.

In addition, in future research in this area, I suggest using longer music excerpts. Kerchner (2013) used music between 3 and 5 minutes long, whereas my participants listened to four music excerpts that were 12 to 20 seconds long. The participants did not write extra-musical responses at pretest possibly, and this may have been the case because they listened to excerpts that were only 8 to 16 bars long.

This narrative music listening activity could also be varied by using different samples with people who are from different regions. Some of the findings from the

previously mentioned studies show that people tend to use music to try on different self-presentations. According to stereotypes, only members of society who are older and of a higher economic status listen to Western art music, which is the opinion among younger generations according to Rizkallah (2009). However, the participants in my study were predominantly from New York—and, more specifically, high-income zip codes. Thus, to examine the existence of stereotypes, future researchers may want to collect samples from different income groups. The study of musical appreciation from a sociocultural-psychological perspective is still in the development stages. This research focus provides rich possibilities for gaining a better understanding of music appreciation.

Recommendations for Future Research

More in-depth research should be conducted on non-Western art music listeners' ability to describe the cognitive qualities of music, and the underlying experience of feelings or emotions that arises from music. Based on my results, this requires skills to identify harmony and polyphonic texture while listening to music. In this study, I found that implicit learning, which is learning without explicit instruction, of learning harmony, was enough for non-Western art music listeners to begin showing an interest in Western art music concerts. The activity using polyphonic texture in this study had quite an impact on non-Western art music listeners. Yet, I have noticed that some cognitive science researchers use the word "harmony" mixed with "polyphonic texture." Both need to be studied more with non-Western art music listeners, but separately because they are different. Harmony acts as a support for the primary conversion (melody). However, the skill to listen and obtain information from polyphonic texture is similar to listening to two

or more separate conversations (melodies) simultaneously. The main issue orchestral organizations need to address is the cause of lower attendance at Western art music concerts. In this study, I found that the complex polyphonic texture may deter non-Western art music listeners from attending Western art music concerts. Thus, more studies into non-Western art music listeners' ability to recognize polyphonic texture (multiple independent melodies happening at one time) may further contribute to the understanding of people's analytical listening skills.

In the written responses, I found significant improvement after the activity. However, the activity should be repeated to determine whether non-musicians' interest in attending a Western art music concert increases more among those with low interest at pretest and posttest but with improved written responses. The freedom of the multiple choice format may not be effective for unmonitored online activities because several of my participants guessed and completed the activity without paying attention to the music. In addition, future research could use other approaches to measuring music listening responses. This may include examining facial expressions and body language. Fridja (1986) stated that this form of evidence could be valuable because it is less subject to demand characteristics than verbal reports. However, sometimes we do not show emotion in behavior, so that it can be problematic. Multiple previous studies have focused on mapping human beings' ability to recognize music elements such as pitch, melody, and harmony. More research methods in music appreciation perception and cognition should be pursued and developed.

Separating participants into two groups, creative thinkers or analytical thinkers, may help brain imaging studies identify thinking styles (Zalanowski, 1986) —the left brain is responsible for rational and analytical, the right brain is responsible for creative and emotional considerations (Funderstanding, 2011).

To evaluate participants' key recognition (harmony/tonality listening) ability, researchers may use chord progression or harmonic progression passages as opposed to a song with different key arrangements because familiar songs like I used, "Mary had a Little Lamb," can be related to memories that may be associated with the musical mood. I intend to find a way to attract non-Western art music listeners to Western art music. Therefore, I investigated how people who had no chance to appreciate an orchestra can gain an interest in attending Western art music concerts.

I witness more orchestra groups perform film scores synchronize with movies in concerts to attract a wider audience (Burlingame, 2015), but it may not be necessary. This study showed that using programmatic music or absolute music in a narrative music listening activity did not matter for non-musicians to gain interest in attending a Western art music concert. Boltz et al. (2009) explained that the visual modalities at live concerts provide the audience access to body movements that convey the musical intentions more clearly than the music alone. More study can be conducted to examine this audiovisual context, which may be possible, including musicians' body movements, provides better opportunities for discriminating the tempo, rhythm, and harmony. Additionally, the presence of visual information and cues can affect the emotional experience of listening to music. Musicians' body movements encourage greater emotional involvement, mostly

due to compositional tempo, dynamics, and instrumentation. Thus, there is considerable evidence indicating that musical appreciation is enhanced by visual information because visual information provides musical cues to the listeners (Boltz et al., 2009) and these cues could come from musicians' body movements.

Conclusion

There was a lack of existing educational research on creative musical listening and the skill development programs for non-Western art music listeners to convert Western art music into narrative music. Because there were no skill developing lessons, prior research studies that are relevant to this research might be limited. Thus, there is a need for further research into music appreciation education.

Listening to music helps us find out the emotional tone that a composer is trying to send to listeners. By participating in narrative music listening activities, non-musicians may feel an emotional connection with music and get contemplative emotional experiences. Moreover, participants can experience the vicarious release of feelings and engage in social sharing of their emotions. Western art music concerts are a form of musical entertainment, and the primary purpose of entertainment is to evoke emotions in the audience (Bartsch, 2012). Music content can evoke emotional memories in the audience, making them align their life experiences with the sound of the music. It is important to introduce non-Western art music listeners to the ability to feel the mood inside the music. The acceptance of extra-musical and affective responses, as well as the analysis of student responses over time, may add to an understanding of individual

student thinking as teachers teach for a lifetime of Western art music appreciation. Non-Western art music listeners need opportunities to get a new perspective on music listening to appreciate complex music like Western art music. One of my listeners made this comment: “How important it is, listening opportunities need to be preserved and available for future generations.”

More studies are needed to discover how to develop audiences for Western art music. Just like a business needs customers, musicians in an orchestra need audiences. Music appreciation educators and orchestra organizations can teach new audiences how to become creative listeners using analytical listening skills. Music education researchers may want to focus on identifying and measuring non-musicians’ musical auditory sensory perception and preference as listeners. My study showed that my participants with no specialized music knowledge made a significant effort to measure cognition and listening perception. We need more investigations to find out how people who had no chance to take music classes can gain an interest in attending Western art music concerts.

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