4-2018

A Study of the Effect of Socio-Cultural Demographics, Health Status, and Use of Music on Music Preferences

Kaitlin McKinley
Western Michigan University

A STUDY OF THE EFFECT OF SOCIO-CULTURAL DEMOGRAPHICS, HEALTH
STATUS, AND USE OF MUSIC ON MUSIC PREFERENCES

by

Kaitlin McKinley

A thesis submitted to the Graduate College
in partial fulfillment of the requirements
for the degree of Master of Music
School of Music
Western Michigan University
April 2018

Thesis Committee:

Ed Roth, M.M., MT-BC, Chair
David Smith, Ph.D.
David Atchison, Ph.D.

A STUDY OF THE EFFECT OF SOCIO-CULTURAL DEMOGRAPHICS, HEALTH STATUS, AND USE OF MUSIC ON MUSIC PREFERENCES

Kaitlin McKinley, M.M.

Western Michigan University

There have been varying studies seeking to find links between a wide range of individuals' personality, gender, age, or well-being on one's musical preferences. These studies have brief suggestions of some characteristics, however, the amount of studies are scarce and have limited results to show substantial influence of specific demographics on music preferences. The present study aimed to explore possible similarities between one's music preferences and the sociocultural background, their use of music in daily life, and their health status. 173 respondents participated in a brief online survey which consisted of rating seven music samples and then followed by 12 questions asking about one's music listening habits, socio-cultural demographics, and health status. The findings indicate that one's rating of music preferences are greatly diverse and show no significance between the music listening habits, sociocultural demographics, or the health ratings surveyed. This study supports previous research which suggests that one's music preferences are very specific and difficult to determine from outside factors.

TABLE OF CONTENTS

Table of Contents—Continued

APPENDICES

LIST OF TABLES

LIST OF FIGURES

CHAPTER I

INTRODUCTION

There have been varying studies seeking to find links between a wide range of individuals' personality, gender, age, or well-being on one's musical preferences. These studies have brief descriptions of some characteristics, however, the amount of studies are scarce and have limited results to show substantial influence of specific demographics on music preferences. There are previous studies showing the significant effectiveness of patient preferred music over more generalized music selections. Music preference holds a uniqueness to the individual which can reach a client in a variety of ways and can have a much greater impact than general music alone. In a meta-analysis on the effect of music and stress arousal, Pelletier (2004) mentions three distinct factors that can affect a listener's response to a musical selection: (a) preference, (b) familiarity, and (c) extra-musical associations with the music. In this study, it was found that while selection of music "based on research" resulted in greater levels of stress reduction in subjects, subject-preferred music had a greater effect on perceived pain (Pelletier, 2004). Greenberg et al. (2015) also discusses the importance of music preferences on a neurological level through various studies that linked neural activity in specific areas of the brain when listening to their favorite music. These studies suggest that music used within music therapy practice may have greater effect on the outcomes when using client preferred music.

Music preference, as defined by Boer (2009), is the evaluation of certain music as favorable or unfavorable, with these preferences staying relatively stable after development. Understanding how one's unique preferences develop, and if there is any impact on social feedback, could lead to a better understanding in music selection, especially in relation to music

therapy work and session planning. "Those who regularly use music as a means to attain some of their goals have a good chance of having positive experiences and learning that music can be used in a functional way" (Schäfer, 2016, p. 11). If our specific music preferences can be determined by other factors, music therapists may be able to increase the outcomes of various client's goals more efficiently.

Research Questions

Based on the need for further research, these six questions were presented:

Research Question 1: Does use and frequency of music influence music preferences?

Research Question 2: If so, does use and frequency of music influence musically induced emotions?

Research Question 3: Does sociocultural demographics influence music preferences?

Research Question 4: If so, does sociocultural demographics influence musically induced emotions?

Research Question 5: Does one's health status influence music preferences?

Research Question 6: If so, does health background influence musically induced emotions?

Statement of Problem

One's sociocultural background and health status may be components to understanding their music preferences. In turn, music preference can be a crucial piece of treatment among individuals within music therapy. If able to determine any sociocultural factors from the individual that may influence these preferences, this may also allow music therapists to provide services for individuals more efficiently.

CHAPTER II

LITERATURE REVIEW

One thing we know for certain is that music leaves few traces - except in the minds of those who are engaged with it. It is likely that the traces that it left in our ancestor's minds still resonate in our contemporary, everyday world, in the agility of our thought and in the complexity of our social interactions. Without music, it could be that we would never have become human (Cross, 2001, p. 101).

Music has become a crucial piece of our daily lives; it is used for various purposes and in a variety of contexts. According to recent studies, within the Western hemisphere alone, people have deliberately listened to an average of 18 hours of music per week (Rentfrow, 2012). The types of music an individual listens to and prefers has emerged for some as a way to factor into their unique personality, or how they may define themselves to others. Music seems to be a natural way to express one's self because of the similarities found between the structure of music and the personality of the self; music is a working story and performance, just as one's personality is continually evolving. This possible link between specific characteristics of an individual and their music preference has been explored by many researchers in a variety of ways. Music can play many, and ever-changing, roles in our daily lives. In doing so, it is difficult to understand how our musical preferences are formed and structured. Meyers (2012) discusses three of some of the most common theories in musical preference formation including repeated exposure, social learning, and inherent musical qualities. Repeated exposure to music is the theory stating that people tend to prefer music that they are more familiar with. Social learning is the theory in which music is used as a communicator to the world, voicing an individual's self views or ideal self-image. Observations suggests that we prefer specific qualities of music, such as in a preference of consonant music. Infants as young as 2-months old have shown a preference

for consonance (characterized by harmony and stability). There is evidence to suggest that this preference is specific to the baby's primary caregiver music preferences. Trainor and Heinmiller (1998) found infants had similar evaluative reactions to consonance and dissonance as adults and suggests that infants preferred to listen to consonant over dissonant intervals. However, the origin of this preference is still unknown if it is a direct consequence of auditory system structure or whether it is a learned trait (p. 85). These theories along with various sociocultural demographic factors have had the most indications for identifying one's music preferences. However, there are a multitude of variables that need to be examined against each other to determine the authenticity of these correlations.

There have been a limited amount of varying studies seeking to find links between a wide range of individuals' unique characteristics and their musical preferences. There has also been previous research suggesting there may be aspects of social influence on our musical preferences (Schäfer et al., 2016, Guadagno, Okdie, & Muscanell, 2013, Myers, 2012). These studies have suggested that there are various factors to influence the music we may prefer most, and possibly more specific correlations between types of music preferred and these specific characteristics we all possess. According to Schäfer (2016), "Knowledge about the influence of age on music preference is the most conclusive. People who maintain a certain interest in music over their lifetime typically prefer increasingly complex music, whereas people who hardly engage in music typically prefer easily comprehensible music when they get older or music that was popular when they were in their adolescence" (p. 2). Individuals of similar age appear to listen to similar music across many cultures similarly. In a cross-cultural study across the countries of Korea, Greece, and the United States, age was the strongest variable as well, with greater significance than other socioeconomic variables (LeBlanc et al., 1999, p. 75). These results

suggest the strength of the variable of one's age in relation to their music preferences. A study by Chamorro-Premuzic, Swami, & Cermakova (2003) also indicates an influence of age, suggesting that increasing age may be associated with a decline in the appreciation of music listening, which may then result in greater distraction experienced by older individuals in the presence of background music. Other researchers have discussed the manipulation and growth of our music preferences through adolescence. Schwartz and Fouts (2003) argue, "Between grades 7 and 12, the typical adolescent spends over 10,000 hours listening to music…" (p. 205). It is suggested that these music preferences chosen by youth are meant to reflect the values, conflicts, and developmental issues with which they are dealing at the time. Schäfer (2016) also agrees with these findings by discussing a variety of previous studies with results showing children do not have fixed music preferences. Schäfer instead suggests indications that younger individuals seem to be open to many different musical variations and styles using the phenomenological term "open-earedness" to define this fluctuating tendency. These previous studies have also shown that children lose their "open-earedness" and start establishing concrete music preferences around the age of 7-10 years of age, suggesting this changes when these youth are faced with challenges of identity, personal relationships, love, and other concerns that correspond to development (Schäfer, 2016, p. 11). These assumptions appear to relate music preference to many variables including age, and also many areas of one's social influence and culture.

Another socio-cultural demographic that may have an effect on our music preferences is gender. There are many differences perceived within cultures between men and women on many bases. However, previous research on gender influence on music preferences has been minimal and often reliant on other variables. In agreement with previous literature, Christenson & Peterson (1988) find that males tend to prefer the more "macho" hard rock forms of music

whereas females preferred the softer, more romantic or dance-oriented music types and that females were also more likely to express that they use music in the service of secondary gratifications and as general background activity more so than males (p. 298-299). Within their study, an analysis of the music preference structure of college students, Christenson & Peterson (1988) found that the underlying structure of music preference cannot be accounted for by reference to two or three factors, such as genre and gender, but is multivariate in that each variable is dependent on additional variables. Additionally, that there are crucial differences between males and females in terms of their "mapping" of musical types (p. 298-299). This study suggests strong differences in music preferences between males and females based on their differences in intentions for using music and also their interpretations of music genres. The researchers explain further stating, "Gender relationships-romantic, sexual, or both-have long been the primary preoccupation of popular music lyrics, with a considerable amount of listening directly integrated into courtship activities and rituals" (Christenson & Peterson, 1988, p. 286). These relationships are apparent in regards to dancing and other general socializing activities where music plays a prominent role within the interaction of the sexes. Music has been linked to many social connections between groups and individuals, Christenson & Peterson (1988) argue that these ties may be stronger between the two sexes based upon the roles of the individuals within an experience. LeBlanc, Stamou, & McCrary (1999), suggested that females have a higher preference for music ratings as a whole; with findings stating a higher music preference across all music samples within the sample group from Greece, but there were no meaningful relationships between gender and preference within the sample groups from Korea and the United States. Christenson & Peterson (1988) discuss the difficulty in defining mainstream or pop music, however, state that their findings along with previous research have suggested that

males tend to avoid this genre and females tend to gravitate to it (p. 298-299). This strong female preference for mainstream, or pop, music seems uneven if these are the genres most played on the radio and in public spaces. However, this difference between genders may be able to be more explained with further research on more diverse and specific music genres.

One conventional image within Western cultures has been formed, suggesting that individuals who prefer certain types of music such as rap, techno, and reggae, have an increased substance use, including the use of alcohol and tobacco. (Mulder et al., 2009). These connections between these specific music genres and activities has been a stereotype seen within social groups and popular media within the past century. In the study by Mulder et al. (2009), 7,324 adolescent students from 192 schools were surveyed using a self-report to measure their music preferences, prevalence of cigarette smoking and alcohol consumption, and also background characteristics involving the student's home life and school achievement. Overall, even when covariates were controlled, punk/hardcore, techno/hard-house, and reggae are associated with increased substance use, while pop and classical music mark less substance use. Heavy metal preference indicated less drinking among girls and less smoking among boys. For girls, a rap/hip-hop preference is associated with increased smoking, however, no relation for substance use was found for boys. Among girls house/trance music indicates increased smoking tendencies, but among boys house/trance music was associated negatively with smoking, and no relation to drinking (p. 523). These findings suggest music preference and substance use may have significant correlations dependent on the music genres preferred. However, more information is needed to verify these interactions. Mulder et al. (2009) has also pointed out that "When covariates such as gender, age, household composition, quality of relations with parents and peers, and perceived parent and peer substance use are controlled, music still accounts for 2-5%

of the explained variance" (p. 523). This shows that music preference has strong correlations with substance use, but can only be partially correlated and additional variables are also accountable. Mulder et al. (2009) has suggested that these musical styles have been more preferred within substance users because of the attention of the alcohol industry and their use of them within marketing for alcohol (p. 515). These are slight suggestions based on minimal experimental studies to support this causal influence, however, more investigation is needed. Mulder et al. (2009) also argues that music preferences may instead encourage various habits, "genres with non-mainstream, youth-oriented pop appeal attract listeners who are also more likely to consider behaviors such as smoking and drinking as 'cool', while liking for music that is either mainstream (pop) or adult-oriented (classical music) seems to buffer tobacco and alcohol use" (p. 524), suggesting that music preference could influence substance use or vice versa.

The use of alcohol and tobacco has been suggested to correlate with specific music preferences, however, our overall health and use of music may also hold strong ties to our music preferences and how they may influence our daily lives. Many previous studies have suggested that music preferences are a mirror of the different functions music can serve for the listener. These studies found that listeners strongly agreed that their favorite music can help them manage their emotional state, however, the emotion management function was only a moderate predictor for the strength of music preference overall (Schäfer, T., Tipandjan, A., & Sedlmeier, P., 2012). These results suggest correlations between music preference and the use of music in our daily lives, indicating a need for more research within this topic. The use of music in relation to doing activities that elevate one's mood, may in turn, increase one's fondness for that music type. In a study by Schäfer, T. (2016) measuring the characteristics of music listening and the strength of

music preference between cultures among 121 individuals, the results suggested many various influences on music preference and also the use of music listening in daily life. "...past functional experiences with music are a significant predictor of both the strength of music's effectiveness in helping listeners attain situation-specific goals and the strength of preference for the music listened to in these situations…The regulation of physiological arousal and moods appeared to be the most important intention for turning on music, followed, in order of importance by the aspiration for self-awareness and social relatedness" (p. 10). These results suggest that using music in positive activities and more frequently may positively enhance one's mood and well-being. Another study that suggests this relationship focuses on a younger population stating, "Adolescents having eclectic music tastes appeared to have less difficulty negotiating their adolescence. For example, in contrast to other groups, they were not experiencing significant issues regarding self-concept, dealing with authority, worrying about their sexuality and peer relationships, having problems with their families, nor experiencing academic concerns… It is unknown, however, whether having eclectic taste in music facilitates adolescent adjustment and/or whether those who are well-adjusted have eclectic tastes in music" (Schwartz & Fouts, 2003, p. 212). Further research is needed to understand if and how these correlations may be influenced.

One's use of music and the strength of their music preferences may also indicate commonalities in music preferences. A strong music preference indicates that a person is highly involved in listening to music, and will actively seek out music by doing intentional activities such as listening to the radio, buying music, or attending live concerts (Schäfer, 2016). Schäfer et al. (2012) also argue that the functions of music in people's daily lives are the most important predictor of music preference. Within their cross-cultural study, they found that the use of music

was the most significant on music preference across population samples from India and Germany (p. 378). Depending on the use of music for individuals, one listening to music more regularly, or with greater intensity, could influence their individual music preference and the strength of said preference. Studies have suggested that individuals who use music more frequently could have more definite music preferences than others who may not listen to music as often. Sutherland et al. (2009), hypothesized that people who were used to experiencing music in a group, such as group of musicians, would be likely to experience more "chills" when listening to music in a social setting than when doing so alone. Researchers analyzed 14 amateur musicians who played together in the same orchestra, listening to a samples of classical music excerpts, to evaluate their feelings via a self-reported questionnaire. There were no significant differences between listening to the samples alone and in the group setting, suggesting that emotions are not experienced more strongly in a group setting than alone, and people may not be as attentive to the music when they are in a group, especially if they are familiar with each other. However, it may be also be argued that musicians could be more resilient to their individual music preferences and not as influenced by social feedback, suggested by Sutherland et al. (2009) who surveyed a group of musicians who were familiar to playing music together in an orchestra.

There have been many suggestions within previous research that individuals with specific strong personality traits may be linked with specific music preferences (Schäfer 2016; Guadagno et al., 2013; Schäfer et al., 2013; Rentfrow, P. J., Goldberg, L. R., & Levitin, D. J., 2011; Chamorro-Premuzic et al., 2010). In a study completed by Chamorro-Premuzic et al. (2010), 535 participants were assessed using a Uses Music Inventory, based on when and why they listen to music, and a Trait Emotional-Intelligence Questionnaire-Short Form, designed to assess individuals' emotional self-efficacy or ability to identify and manage their own and others'

emotions. Their findings suggested a significant correlation between music consumption and Openness (positively correlated) and age (negatively correlated), Extraversion and emotional use of music (positively correlated), and Extraversion and cognitive use of music (negatively correlated). Similarly, other studies have suggested trends including a study by Schwartz & Fouts (2003) suggested with that adolescents preferring light music would have personalities and developmental issues different than those preferring heavy music or having more eclectic music preferences, adolescents with more eclectic and balanced musical tastes would have scores on the Millon Adolescent Personality Inventory that would indicate successful negotiation of adolescence, and that female adolescents would listen to and prefer light music qualities more than would males since such music reflects their socialization themes (p. 207) and "There may be individual variables that moderate the effect of manipulation such as… participants with less self-confidence might have rated their music preference lower than those with more self-confidence" (Schäfer et al., 2016, p. 266). The results of the study by Schäfer et al. (2016) suggested that self-confidence was positively correlated with the strength music preference ratings. These findings suggest that individuals who portray themselves more confidently may also be more confident in their music preference and solidifying those choices. "Similarly, the degree to which individuals perceive themselves to be similar to another has been shown to be a heuristic that individuals rely in offline contexts… individuals are more likely to be persuaded by or comply with a request if the communicator of the request is perceived as being similar" (Guadagno et al., 2013, p. 303). Many people will follow trends seen by their peers or coworkers; whether these are done through the choice of what to wear, what phone to purchase, where to eat, or even what music one should listen to. There are also applications and websites dedicated to compiling people's opinions on certain activities. This importance of other's

opinions may also effect one's music preference despite how they may interpret the music individually.

Music preference is often seen as a variable to describe one's self and lifestyle. Previous research has also shown that musical preferences and personality are linked, yet little is known about other influences on our preferences such as our demographic and cultural backgrounds (Greenberg, Baron-Cohen, Stillwell, Kosinski, & Rentfrow, 2015; Chamorro-Premuzic et al., 2010). There have been many indications that popular judgment may be a significant factor in an individual's music preferences. These social influences appear to be based on validation from others in the form of social feedback and posted music ratings (Guadagno et al., 2013; Schäfer et al., 2012; Egermann, Grewe, Kopiez, & Altenmuller, 2009). Social feedback, in the form of previous music reviews by other individuals has resulted in notably influenced outcomes from participants within a variety of studies. These results have suggested that when an individual is exposed to the social feedback of their peers, their music preference choices may be altered based on the social feedback responses from others. The results of a study by Schäfer et al. (2012) agrees with many previous findings suggesting that the use of music for social bonding may be one of the most universal variables above culture-specific conditions. There was no difference found between music listeners in the Indian and German sample in regards to the variables included in the use of music for social bonding (p. 378). However, the consistencies between these two sample groups of Indian and German participants may allow for more analysis of music preference across broader populations and social groups for future research. The researchers found significant similarities in the functions of music listening between Eastern and Western music listeners, however, there are still many unknowns between various cultural background differences and music's function within these differing cultures.

We are continually exposed to music that our society views as "popular" within mainstream media whether it is played on the radio, while shopping or in waiting rooms, or other areas where we may be socializing or participating in other activities. This idea of social exposure to specific musical styles may also be an explanation for one's self-reported music preferences. However, depending on the context of the music listening, the amount of one's engagement to the music may not be affected. "There are many social influences on the emergence and development of music preference. Parents and teachers can bring children into contact with certain types of music or encourage them to engage in musical activities such as learning an instrument or music education, which is associated with certain types of music, as well" (Schäfer, 2016, p. 2). Throughout time, people have acknowledged the influence of others on their life choices and their achievements. Studies have suggested that this similar influence may be responsible for our music preference as well. Berns, Capra, Moore, & Noussair (2010) used fMRI scans of adolescents, age 12-17, to assess their ratings of music associated with social influence. This study used the primary stimuli of 15 second clips from unfamiliar songs, using only recordings by unsigned musicians. Participants then undergo two trials, one with no popularity information and a second trial with the additional popularity score given based on a 1-5 point star scaling system. Participants were then asked to assess the rating of a given sample based on how familiar it was and also how much they liked it using a Likert scale. Participants changed their answers significantly more when the popularity information was displayed, changing their ratings 21.9% of the time, compared to changing their ratings 11.6% of the time without this additional information. The fMRI scans found many areas of the auditory and visual sensory processes were activated when listening to the music samples. There was greater activation, specifically the bilateral caudate nuclei, and the right lateral prefrontal cortices, with a

higher rating for the song. This region of the brain is suggested as playing a key role in reward and value-based decision making (p. 2692-2693). This study suggests that various areas of our brain are strongly associated with what others may think about music, and could also affect how we perceive the music sample while simultaneously listening and processing the music.

Christenson & Peterson (1988) discuss a previous study that has found correlations between music types and geographical location, the links that emerged included hymns, barbershop, country and bluegrass and a rural base; and also rock, soul, jazz, classical, musical shows, and opera and an urban base (Christenson & Peterson, 1988, p. 284). These correlations appear to agree with social judgments within Western culture and our popular perceptions about demographic areas within the United States that we have constructed in the past century. However, these suggestions appear to need additional variables to support these suggestions, and additional research is required to indicate these geographic correlations. By analyzing varying sociocultural aspects and their correlations with music preference, it is important to be aware of the many factors that may be an influence. These could include so many contrasting points that make up one's personality, sociocultural demographics, health status, and a variety of other factors within their lifetime. This has also been agreed upon in previous studies that "to make a reliable prediction about the specific musical styles or pieces that an individual prefers, one would have to identify and measure a host of variables" (Schäfer, 2016, p. 12). Each individual may have many different traits that could correlate with their unique music preferences, to determine these possible connections, we must look at many different variables. LeBlanc et al. (1999) also agreed with the need to assess many variables when determining music preferences because preferences differ greatly for listeners of different ages, cultural backgrounds, genders, and other factors. If able to assess music preferences among many different variables

simultaneously, results may indicate stronger suggestions of correlations between particular identifying variables and specific music preferences.

     In conclusion, previous research has indicated a narrow amount of connections between music preference and various sociocultural demographics. However, these results have continually indicated a need for further investigation and research in order to increase the validation of these hypotheses. The current study was carried out in order to further investigate any possible significant commonalities between one's music preference and their sociocultural demographics, musical background, and health status.

CHAPTER III

METHOD

Recruitment and Enrollment of Participants

This study recruited participants online, using various methods. Methods included email to personal acquaintances, work colleagues, and educational colleagues, as well as social media platforms including Facebook, Twitter, and Instagram. Posts to social media platforms were shared through acquaintances of accounts from researcher, research colleague Megan Dillon, and Thesis Committee Chair, Ed Roth. Inclusionary criteria included prospective subjects' self-assessed adequate hearing at normal volume under typical listening conditions, internet connection and audio capabilities. There were no restrictions on any individual demographics in hopes of gaining a wide variety of participants. The survey was open to recruitment from October 20, 2017 through January 3, 2018. The total sample comprised 173 participants, in which 168 participants completed the full questionnaire. This included a range of participants varying in gender, age, race, education background, living location, income, self-reported physical activity, and self-reported health ratings. A full description of participant demographics is identified in the Results section of this paper. The first page of the questionnaire included instructions and consent to participate via video explanation created by researchers (Appendix D) and the final page of the survey there included a debriefing of the true meaning of the study via video explanation created by researchers (Appendix E).

Creation of Assessment Measures

Musical excerpts were either paired with falsified ratings on each of the rating scales, stated as being the average answers of previous participants, or musical excerpts will not have any falsified ratings in view. The false ratings were created by the experimenters based on a pilot test from five acquaintances of the researchers. This portion of the survey along with seven musical excerpts were chosen to replicate the Egermann et al. (2009) study (Appendix A). The survey included a brief demographics questionnaire based on the core questions of the 2015 version of Behavioral Risk Factor Surveillance System (BRFSS). The BRFSS is designed by a working group of BRFSS state coordinators and the Center for Disease Control (CDC) (Appendix B).

Procedure

The survey consisted of seven brief musical excerpts and three coinciding rating scales, as well as 12 questions inquiring about music listening habits, sociocultural demographics, and self-reported health. Each survey then included seven musical excerpts, 30 seconds in length each. These seven musical excerpts were used to mirror the Egermann et al. (2009) study along with musical ratings including ratings based on emotions. Participants were then asked to listen to each excerpt and rate them on three scales: a sliding scale between boring vs. exciting (-50 to 50), a sliding scale between uplifting vs. depressive (-50 to 50), and also a star rating scale on how much they liked the selection from 1 to 5 stars, 1 being "disliked" and 5 being "enjoyed". Participants were randomly assigned to two types of listening samples for each of the seven musical excerpts. Immediately following the music listening and excerpt ratings portion of the survey, there was a brief demographics questionnaire based on the core questions of the

Behavioral Risk Factor Surveillance System (BRFSS). This included questions regarding their

socio-cultural demographics including age, sex, annual income, college experience, description

of living location, a brief health questionnaire, and also on their musical listening preferences.

There was no time limit on the survey. Participants completed the entire study at their

convenience in the order described above. Average completion time of survey was 11 minutes,

and on average participants completed 94% of survey with some omitting their email address.

CHAPTER IV

RESULTS

Analysis

Description and statistical analyses tests were used to describe and determine whether participants' socio-cultural demographics suggest various music preferences or commonalities between star ratings of the total music samples. All statistical analysis tests were run in the Statistical Package for the Social Sciences (SPSS). Descriptive statistics were first computed for all of the categorical variables of questionnaire. The total sample comprised 173 participants, of which, 5 participants did not complete all of the questions.

Socio-cultural Demographics

The gender of participants consisted of 48 male, 118 female, and two identifying as other gender (Figure 1). The age range of participants was 18-97 years old, with the largest amount of participants in the 26-30 years old range (23.7% of total sample). 84.4% of participants described themselves as white, 4.6% as "other", 4.0% as black or African American, 2.3% as Latino or Hispanic, 0.6% as American Indian or Alaskan Native, 0.6% as Asian, and 0.6% as Pacific Islander. With regards to educational level, 1.2% had completed grades 9-11, 11.6% had graduated high school or completed GED, 22% completed 1-3 years of college, and 62.4% had graduated college or completed 4 or more years of college. With regards to area of living, 30.1% described themselves as living in a rural area, 49.7% were living in a suburban area, and 17.3% were living in an urban area. Of the total participants annual household income levels, 1.2%

reported under $10,000, 2.3% reported under $15,000, 2.9% reported under $20,000, 2.9%

reported under $25,000, 9.2% reported under $35,000, 16.2% reported under $50,000, 17.9%

reported under $75,000, 37.6% reported over $75,000, and 6.9% of participants stated "don't

know or unsure" (Table 1).
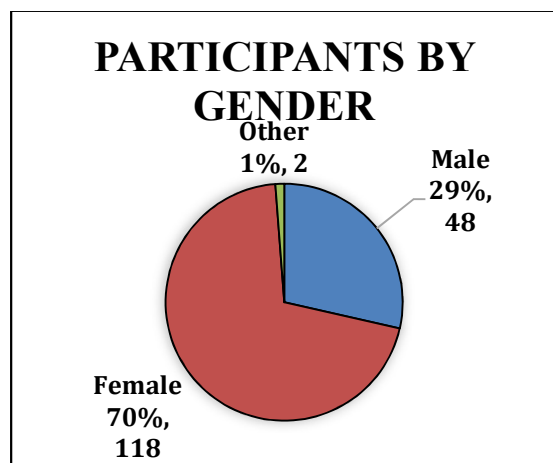
Figure 1: Participants by gender.

Table 1

Frequency Table of Participant's Annual Income

	Frequency	Percent
No Response	5	2.9
Less than $10,000	2	1.2
Less than $15,000	4	2.3
Less than $20,000	5	2.9
Less than $25,000	5	2.9
Less than $35,000	16	9.2
Less than $50,000	28	16.2
Less than $75,000	31	17.9
$75,000 or more	65	37.6
Don't know or not sure	12	6.9
Total N	173	100.0

Health Status and Exercise

Participants were also asked to assess their health on three factors. When asked whether

or not they exercised outside of their job, 79.8% of participants said yes, 16.8% of participants

said no, and 0.6% stated "don't know or unsure" (Figure 2). With regards to one's self-reported

health rating, 9.8% reported excellent, 37.6% reported very good, 34.1% reported good, 11.6%

reported fair, 2.9% reported poor, and 1.2% reported "don't know or unsure". Participants were

also asked how many days in the past 30 days did poor physical or mental health keep you from

doing your usual activities, such as self-care, work, or recreation (Figure 3). The majority of the

participants reported 0 days (42.8%), 1 day (13.9%), 2 days (8.1%) being the second and third

highest reported respectively.
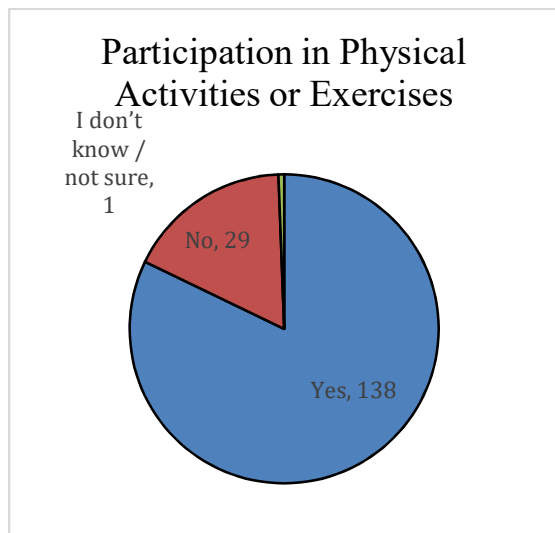
Figure 2: Frequency graph of participant's response to the question, "During the past month, other than your regular job, did you participate in any physical activities or exercises such as running, calisthenics, golf, gardening, or walking for exercise?" with three possible responses.
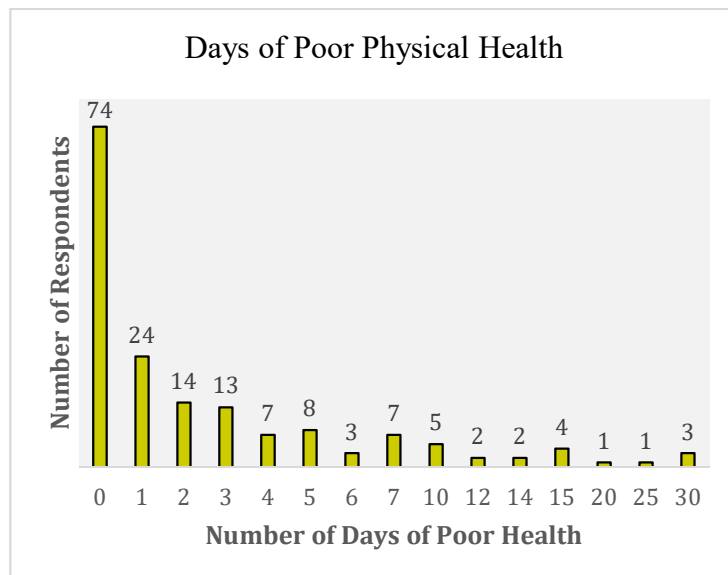
Figure 3: Frequency graph of participant's responses to the question, "During the past 30 days, for about how many days did poor physical or mental health keep you from doing your usual activities, such as self-care, work, or recreation?" with the possible responses of 0-30 days.

Music Listening Habits

Frequency of time spent listening to music was asked both in hours of listening to

background music, and solely listening to music without other activity. The most common

response for both music listening types was 0-2 hours per day. However, the mean number of

hours of listening were 4.68 hours of background music listening, and 2.78 hours of solely

listening to music without other activity (Figure 4 and Figure 5).

Daily Hours of Background Music Listening

Error Bars: 95% CI
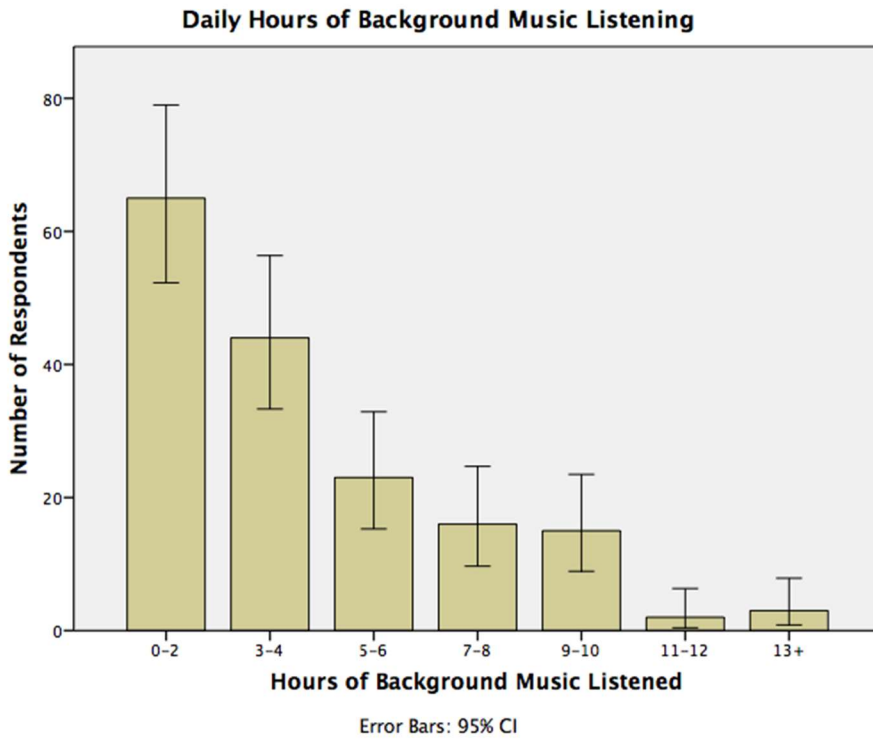
Figure 4: Average hours of daily music listening as background music.

Daily Hours of Solely Listening to Music

Error Bars: 95% CI
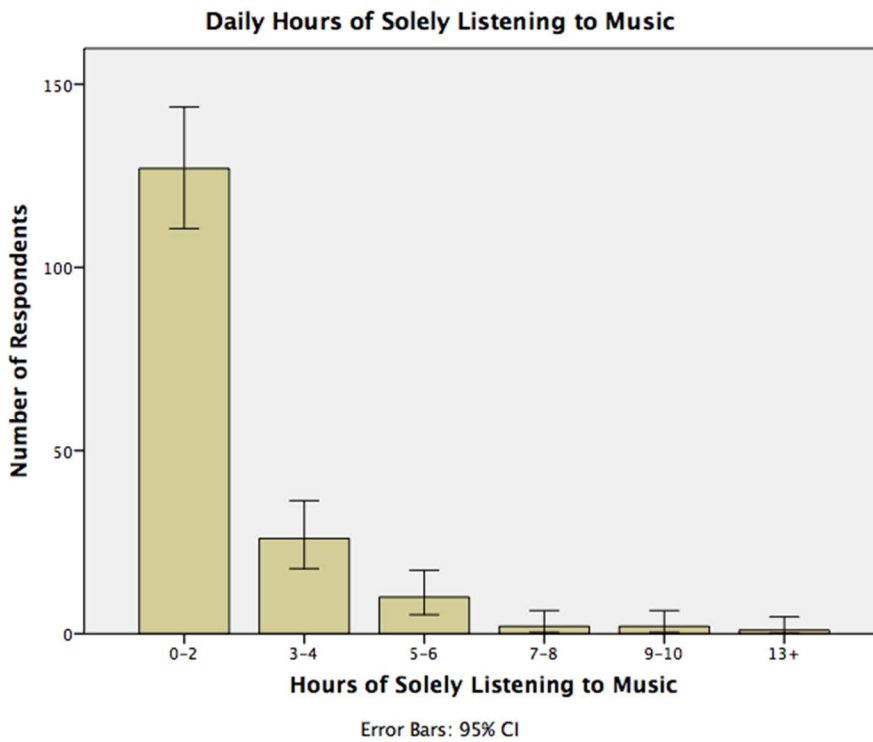
Figure 5: Average hours of daily music listening as hours of solely listening to music without other activity.

The question regarding where one most often listens to music consisted of 8 possible responses how one may listen to music during the day (Figure 6). This included: during commute, exercise, live concerts, spending time with others, studying or during work, practicing instrument or singing, in the shower, and listening to music while doing no other activity. The most common music listening location for participants was during commute (85.0%), followed by studying or during work (49.7%), exercise (45.7%), and spending time with others (41.0%).
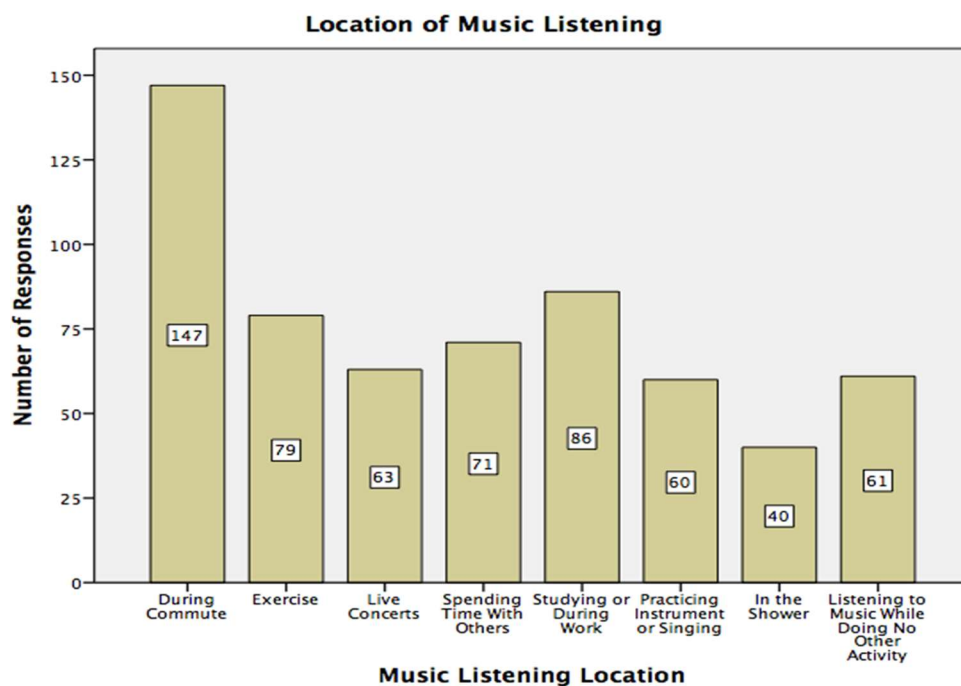
Figure 6: Frequency graph of participants' most common locations of music. listening over eight possible options.
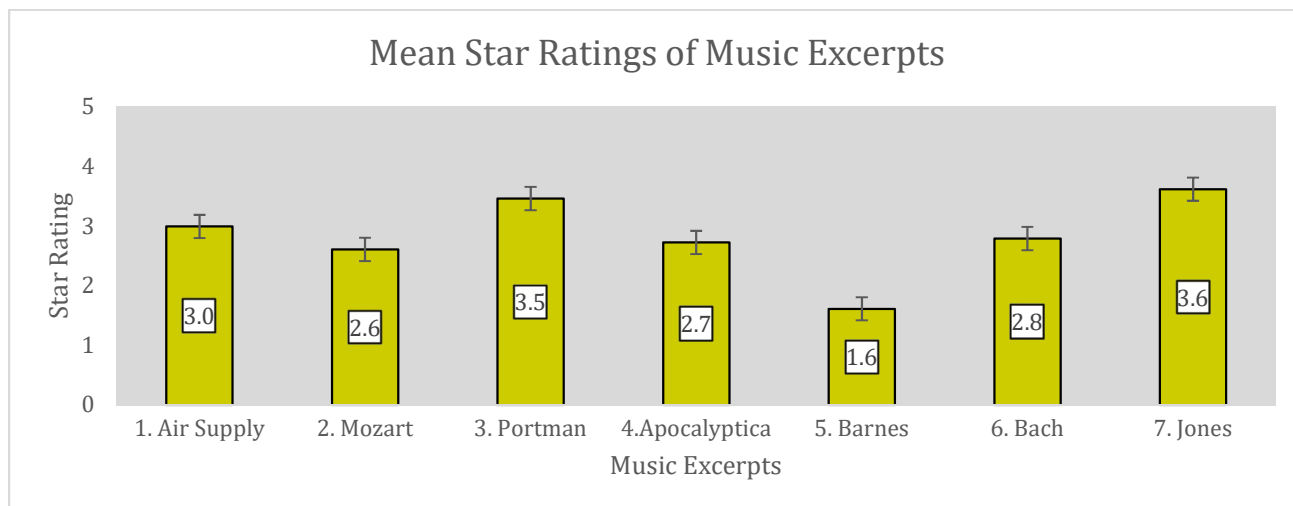
Figure 7: Frequency graph of the means of all seven music excerpts. Star ratings based on Likert scale of 1 being disliked and 5 being enjoyed.

Table 2

Mean and Standard Deviation of Star Rating of Seven Music Excerpts

	1. AirSupply	2. Mozart	3. Portman	4.Apocalyp	5. Barnes	6. Bach	7. Jones
Mean	3.0	2.6	3.5	2.7	1.6	2.8	3.6
Std. Deviation	1.3	1.1	1.1	1.2	1.0	1.3	1.1

The survey included seven music listening excerpts consisting of 30 seconds of music and three respective rating scales. One of the rating scales included a star rating between 1-5 stars, 1 being disliked and 5 being enjoyed. The seven music listening excerpts included varying music genres. The mean ratings for all 7 music samples can be seen in Figure 7, with Music excerpt 7: "Soul Bossa Nova" Quincy Jones, having the smallest standard deviation of 1.1 from the mean rating of 3.6. The average star ratings of all 7 music excerpts was then calculated. The mean of total star ratings was 2.8, the median was 3, and the standard deviation was 1.3.

Table 3

Chi-Square Outputs from Crosstabs Between Total Mean Star Rating and the Categorical Data Sets

Mean Star Rating (MSR) and each Categorical Type	X^2 Value	df	Asymp. Sig.
MSR and Gender	52.032[a]	42	.138
MSR and Race	137.320[a]	126	.231
		1	.172
MSR and Education	73.495[a]	6	
		3	
MSR and Physical Activity	31.664[a]	42	.877
MSR and Poor Physical Health	261.730[a]	273	.677
MSR and Health Rating	102.431[a]	105	.553

Within the 12 questions following the music excerpts and rating scales in the survey, some of the demographic categories were each reviewed against the total mean star rating scale to assess for any significant interaction using Chi-square test (Table 2). The Chi-square test was chosen to determine possible relationships between these demographic categories and the total mean star rating. There was no statistical significance between any of the eight demographic categories and the total mean star rating. The results of these Chi-square tests suggest that these variables are independent of each other and there is no statistical relationship between the demographic variables and the total mean star rating. The closest significance level was seen in the interaction between the mean star rating and gender, x^2 (42) = 52.032, $p > 0.05$. These results suggest that none of the categorical data sets including gender, age, race, education, living location, annual income, and one's self-reported health ratings, have any strong relation to one's average music preference rating.

Table 4

Means of Musically Induced Emotions Per Excerpt

Sliding Scale Rating Type	1. Air Supply	2. Mozart	3. Portman	4.Apocalyptica	5. Barnes	6. Bach	7. Jones
Boring vs. Exciting	4.9	0.5	18.5	-12.9	-17.7	4.0	28.4
Depressing vs. Uplifting	6.4	-0.6	12.7	-2.2	0.2	10.6	25.5

*Participants ranked their responses on a sliding scale ranging in scores from -50 and +50.

The mean of the sliding scale ratings of the two types of musically induced emotions were calculated for the seven excerpts (Table 4). The scales included boring vs. exciting, from -50 to 50, with -50 being most boring, and 50 being most exciting, and depressing vs. uplifting, with -50 being most depressing, and 50 being most exciting. There were no statistically significant relationships found between the music excerpt ratings and the responses to the questionnaire on one's music listening habits, socio-cultural demographics, and health status. Therefore, no additional analysis tests were run to assess the relationship between the demographic questionnaire and musically induced emotions.

CHAPTER V

DISCUSSION

Results from the current study align with previous literature in that one's music
preferences may be difficult to predict using factors such as one's sociocultural demographics
and health status (Schwartz & Fouts, 2003; Park, Weber, Naaman, & Vieweg, 2015; Schäfer et
al., 2012; LeBlanc et al., 1999; and Christenson & Peterson, 1988). Although there was not a
specific target sampled, and the researchers put minimal limitations on the recruitment sample,
there was a strong response by participants that were female (70.2%), white (84.4%), college
graduates (62.4%), with annual incomes above $35,000 (71.7%), and with positive health ratings
including overall health rating of good, very good, or excellent (81.5%) and stated they
participated in physical activities and/or exercise (82.1%). Interpretation of data are expressed
within this sample frame. Mean star ratings of each of the seven music samples were computed
to determine the average rating for each music sample. The standard deviation for each music
sample was fairly low, indicating that confidence in the mean scores is high. These small
standard deviations suggest that most of the participants rated the music excerpts similarly. The
mean, median, and standard deviation was then computed combining the ratings from all seven
music excerpts to get a grand mean, median, and standard deviation of the overall star rating of
the music excerpts. This allowed for comparisons between each of the categorical demographics
and the average star ratings of music as a whole, to determine if there were any similarities
between sociocultural demographics and health status and how music may be rated generally.

Amongst participants who were primarily white, affluent, college educated women, their self-reported health and music listening habits did not suggest any relationship to their music preference ratings. These results agree with previous literature including the study done by Park et al. (2015) measuring diversity of music preference between demographic factors in a survey of social media users and their online music listening profiles. This previous study found no significant differences between urban, suburban, and rural areas of living and the music preferences of individuals in these different areas. Park et al. (2015) also found race, age, and gender to all be associated with significantly higher diversity in music preferences and listening habits. The present study conforms to this previous research in also finding no significant differences between areas of living comparing urban, suburban, and rural areas. The current research also demonstrates a high diversity of music preference across race, age, and gender as there were no significant relationships between these demographics and the music star ratings.

Another previous study done by Schäfer et al. (2012) found no significant differences in gender and music listening locations in measuring functions of music and their relationship to music preference between sample groups from India and Germany. This previous study found no differences in gender and music listening locations, however, the results found the most common music listening type to be background music (Schäfer et al., 2012, p. 375). The current study also found trends of higher average hours of background music than hours of solely listening to music (Figure 4), as well as higher responses to music listening locations referencing engaging in other activities with music in the background (Figure 5). These included activities such as during commute or studying and during work with the use of music in the background. This suggests that one's music preference may also be more varied due to the lack of engagement when listening to music as it is more often in the background of other activities.

Schwartz & Fouts (2003) support the current results also finding no differences between gender and age in music preference ratings between high school juniors and seniors (p. 210-211). LeBlanc et al. (1999) also support the present study's results, finding no meaningful relationship between gender and music preference in samples from Korea and the United States of America (p. 74). Both of these studies found a large variance in the music preference ratings of gender similar to the results found in the current study. The present research, along with these previous studies, suggest that gender is unrelated to how one assesses their music preference.

Christenson & Peterson (1988) presented a study measuring music preferences by genres and the possibility of correlations between genders. Christenson & Peterson (1988) found statistically significant differences between male and female music preference ratings for only 9 genres out of 26 measured in the study (p. 292-293). This could agree with the varied outcomes found in the current study due to the increased variance between males and females for music preference ratings of the other 17 genres, and the current study found no significance between music ratings and gender across seven music excerpts (Table 3). This present study presents higher variance between gender and music preference ratings with only seven music excerpts used, which limits the amount of genres surveyed, however, implies greater diversity of music preference between genders. The current study did not suggest any significant relationships between one's music preference and their music listening habits, socio-cultural demographics, or health status. Therefore, no further analyses were assessed between the participant's responses to categorical data and the ratings of musically induced emotions between boring vs. exciting, and depressing vs. uplifting.

CHAPTER VI

LIMITATIONS AND CONCLUSION

Further research is still needed on the possible socio-cultural influences on music preferences. This study used many components from previous research by Egermann et al. (2009) including the use of the same seven music excerpts, sliding scales of possible emotions, and manipulated social feedback that was randomly selected to be displayed to the participants. The possible effect of manipulated social feedback was analyzed and assessed by a separate researcher. This allowed for some replication, however, did limit the use of music samples and areas of music preference ratings. For future research on music preferences, one may strive for a larger group of music type and genres to represent the extensive types of music currently available. The limited amount of music excerpts used may also restrict its applicability to other, wider sample groups. The seven music samples used within this study does not cover all genres and types of music which limits the amount of music preferences one is able to consider. In addition to this study, future studies may do well to include a wider array of participants and a larger number of respondents for each categorical data set. In future work regarding these areas, it may also be useful to examine these 12 demographic questions from the questionnaire in relation to the two different groups of music listening excerpts, including with the falsified data and without. It is possible that there may be a difference between one's music preferences if they are influenced by viewing the previous ratings of others.

It is noteworthy that the current study did not examine the two sliding rating scales inferring one's musically induced emotions to the seven musical excerpts. These two sliding

scales measured each of the seven music excerpts between boring vs. exciting (-50 to 50), a sliding scale between uplifting vs. depressive (-50 to 50). These self-reported musically induced emotions could possibly show relationship between any of the 12 questions of categorical questionnaire within the online survey. Another limitation of the current study include the use of an opportunistic sample. Although this allowed surveyors to obtain a varied sample with a wide distribution of responses, it does not fully allow the researchers to generalize their findings to a wider population.

These limitations notwithstanding, the present study supports previous work showing that individual differences in frequency of music listening, sociocultural demographics, and one's health status present wide and varying interpretations on music preference. The available literature shows that one's background has a noticeable impact on their music preferences, however, these specific music preferences may not be solely defined by frequency of music listening, sociocultural demographics, and one's health status and are not determinable within the current investigation.

REFERENCES

Berns, G. S., Capra, C. M., Moore, S., & Noussair, C. (2010). Neural mechanisms of the

    influence of popularity on adolescent ratings of music. *Neuroimage*, *49*, 2687-2696.

    doi:10.1016/j.neuroimage.2009.10.070

Berns, G. S., Chappelow, J., Zink, C. F., Pagnoni, G., Martin-Skurski, M. E., & Richards, J.

    (2005). Neurobiological correlates of social conformity and independence during mental

    rotation. *Biological Psychiatry*, *58*, 245-253. doi.org/10.1016/j.biopsych.2005.04.012

Boer, D. (2009). *Music makes the people come together: social functions of music listening for*

    young people across cultures (Doctoral thesis). Victoria University of Wellington, New

    Zealand.

Centers for Disease Control and Prevention (2015). *Behavioral Risk Factor Surveillance System*

    Survey Questionnaire 2015. Atlanta, Georgia: U.S. Department of Health and Human

    Services.

Chamorro-Premuzic, T., Swami, V., & Cermakova, B. (2012). Individual differences in music

    consumption are predicted by uses of music and age rather than emotional intelligence,

    neuroticism, extraversion or openness. *Psychology of Music*, *40*(3), 285-300.

Christenson, P. G., & Peterson, J. B. (1988). Genre and gender in the structure of music

    preferences. *Communication Research*, *15*(3), 282-301.

    doi:10.1177/009365088015003004

Cross, I. 2001 Music, Mind and Evolution. *Psychology of Music*, *29*(1), 95-102.

Egermann, H., Grewe, O., Kopiez, R., & Altenmuller, E. (2009). Social feedback influences

    musically induced emotions. *Annals of the New York Academy of Sciences*, *1169*, 346-

    350. doi:10.1111/j.1749-6632.2009.04789.x

Egermann, H., Nagel, F., Altenmüller, E., & Kopiez, R. (2009). Continuous measurement of

    musically-induced emotion: A web experiment. *International Journal of Internet Science*,

    4(1), 4-20.

Egermann, H., Sutherland, M. E., Grewe, O., Nagel, F., Kopiez, R., & Altenmüller, E. (2011).

    Does music listening in a social context alter experience? A physiological and

    psychological perspective on emotion. *Musicae Scientiae*, *15*(3), 307-323.

Frith, S. (1996). Music and identity. *Questions of cultural identity*, 108-127. London: Sage.

Greenberg, D. M., Baron-Cohen, S., Stillwell, D. J., Kosinski, M., & Rentfrow, P. J. (2015).

    Musical preferences are linked to cognitive styles. *PloS one*,*10*(7), e0131151.

Guadagno, R. E., Okdie, B. M., & Muscanell, N. L. (2013). Have we all just become "Robo-

    Sapiens"? Reflections on social influence processes in the internet age. *Psychological

    Inquiry*, *24*, 301-309. doi:10.1080/1047840X.2013.846207

LeBlanc, A., Jin, Y. C., Stamou, L., & McCrary, J. (1999). Effect of age, country, and gender on

    music listening preferences. *Bulletin of the Council for Research in Music Education*,

    141, 72-76.

McPherson, M., Smith-Lovin, L., & Cook, J. M. (2001). Birds of a feather: Homophily in social

    networks. *Annual Review of Sociology*, *27*(1), 415-444.

Meyers, C. K. (2012). Influences on music preference formation [Electronic version]. *PURE

    Insights*, *1*(7), 31-34.

Mulder, J., Ter Bogt, T. F., Raaijmakers, Q. A., Gabhainn, S. N., Monshouwer, K., &
Vollebergh, W. A. (2009). The soundtrack of substance use: Music preference and
adolescent smoking and drinking. *Substance Use & Misuse*, *44*, 514-531.
doi:10.1080/10826080802347537

Park, M., Weber, I., Naaman, M., & Vieweg, S. (2015). Understanding musical diversity via
online social media. In *Ninth International AAAI Conference on Web and Social Media*,
308-317.

Pelletier, C. L. (2004). The effect of music on decreasing arousal due to stress: A meta-analysis.
Journal of Music Therapy, 41(3), 192-214.

Rentfrow, P. J. (2012). The role of music in everyday life: Current directions in the social
psychology of music. *Social and Personality Psychology Compass*, *6*, 402-416.
doi:10.1111/j.1751-9004.2012.00434.x

Rentfrow, P. J., Goldberg, L. R., & Levitin, D. J. (2011). The structure of musical preferences: A
five-factor model. *Journal of Personality and Social Psychology*, *100*(6), 1139-1157.

Schäfer, T. (2016). The goals and effects of music listening and their relationship to the strength
of music preference. *PLoS ONE*, *11*(3), e0151634. doi:10.1371/journal.pone.0151634

Schäfer, T., Auerswald, F., Bajorat, I. K., Ergemlidze, N., Frille, K., Gehrigk, J., ... & Sari, S.
(2016). The effect of social feedback on music preference. *Musicae Scientiae*, *20*(2), 263-
268. doi:10.1177/1029864915622054

Schäfer, T., Tipandjan, A., & Sedlmeier, P. (2012). The functions of music and their relationship
to music preference in India and Germany. *International Journal of Psychology*, *47*(5),
370-380. doi:10.1080/00207594.2012.688133

Schwartz, K. D., & Fouts, G. T. (2003). Music preferences, personality style, and developmental issues of adolescents. *Journal of Youth and Adolescence*, *32*(3), 205-213. doi:10.1023/A:1022547520656

Sutherland, M. E., Grewe, O., Egermann, H., Nagel, F., Kopiez, R., & Altenmüller, E. (2009). The influence of social situations on music listening. *Annals of the New York Academy of Sciences*, *1169*(1), 363-367.

APPENDIX A

List of Music Sample Excerpts

List of Music Sample Excerpts

Music Listening Sample 1: "Making Love out of Nothing at All" Air Supply, Air Supply, 1997, Pop music, 5:44

Music Listening Sample 2: "Tuba mirum"- Requiem KV 628, Wolfgang Amadeus Mozart, Karajan, 1989, Classical with vocal soloists, 4:15

Music Listening Sample 3: "Main Titles" Soundtrack from the movie "Chocolat", Rachel Portman Portman, 2000, Film music, 3:11

Music Listening Sample 4: "Coma" Apocalyptica, Apocalyptica, 2004, Rock music on classical instruments, 6:58

Music Listening Sample 5: "Skull Full of Maggots" Chris Barnes, Cannibal Corpse, 2002, Death metal, 2:06

Music Listening Sample 6: "Toccata" BWV 540 Johann Sebastian Bach, Walcha, 1997, Classical instrumental (organ), 8:21

Music Listening Sample 7: "Soul Bossa Nova" Quincy Jones, Jones, 1997, Dance music, 2:46

APPENDIX B

Sociocultural Demographics Questionnaire

Sociocultural Demographics Questionnaire

1. a. On a typical day, how many hours do you spend listening to music; with music in the

background?

0-2 hours

3-4 hours

5-6 hours

7-8 hours

9-10 hours

11-12 hours

13 or more hours

1. b. On a typical day, how many hours do you spend listening to music; with music listening as

the primary activity?

0-2 hours

3-4 hours

5-6 hours

7-8 hours

9-10 hours

11-12 hours

13 or more hours

2. Where do you most often listen to music? (choose all that apply)

During commute

Exercise

live concert

spending time with others

studying/during work

practicing instrument or singing

in the shower

only listening to music

3.	What is your gender?

Male

Female

Other

4.	What is your age?

18-25

26-33

34-41

42-49

50-57

58-65

66-73

74-81

82-89

90-97

98+

5.   Which of the following would you say is your race?

White or Caucasian

Hispanic or Latino

Black or African American

American Indian or Alaska Native

Asian

Pacific Islander

Other

6.   What is the highest grade or year of school you completed?

Never attended school or only attended kindergarten

Grades 1 through 8 (Elementary)

Grades 9 through 11 (Some high school)

Grade 12 or GED (High school graduate)

College 1 year to 3 years (Some college or technical school)

College 4 years or more (College graduate)

7.   What is the closest description to where you currently live?

Rural

Suburban

Urban

8.   What is your annual household income from all sources?

Less than $10,000

Less than $15,000

Less than $20,000

Less than $25,000

Less than $35,000

Less than $50,000

Less than $75,000

$75,000 or more

Don't know / Not sure

9.   During the past month, other than your regular job, did you participate in any physical

activities or exercises such as running, calisthenics, golf, gardening, or walking for exercise?

Yes

No

Not sure

10.   Would you say that in general your health is:

Excellent

Very good

Good

Fair

Poor

Don't know

11.   During the past 30 days, for about how many days did poor physical or mental health

keep you from doing your usual activities, such as self-care, work, or recreation? (Please answer

in number of days)

0-30+ days

APPENDIX C

Behavioral Risk Factor Surveillance System Questionnaire 2015: Core Sections

Behavioral Risk Factor Surveillance System Questionnaire 2015: Core Sections

1.1 Would you say that in general your health is—
    Excellent
    Very good
    Good
    Fair
    Poor
    Don't know / Not sure

2.1 Now thinking about your physical health, which includes physical illness and injury, for how many days during the past 30 days was your physical health not good?
    __ Number of days
    None
    Don't know / Not sure

2.2 Now thinking about your mental health, which includes stress, depression, and problems with emotions, for how many days during the past 30 days was your mental health not good?
    __ Number of days
    None
    Don't know / Not sure

2.3 During the past 30 days, for about how many days did poor physical or mental health keep you from doing your usual activities, such as self-care, work, or recreation?
    __ Number of days
    None
    Don't know / Not sure

3.1 Do you have any kind of health care coverage, including health insurance, prepaid plans such as HMOs, government plans such as Medicare, or Indian Health Service?
    Yes
    No
    Don't know / Not sure

3.2 Do you have one person you think of as your personal doctor or health care provider? If "No," ask: "Is there more than one, or is there no person who you think of as your personal doctor or health care provider?"
    Yes, only one
    More than one
    No
    Don't know / Not sure

3.3 Was there a time in the past 12 months when you needed to see a doctor but could not because of cost?
    Yes
    No
    Don't know / Not sure

Within the past year (anytime less than 12 months ago)
Within the past 2 years (1 year but less than 2 years ago)
Within the past 5 years (2 years but less than 5 years ago)
5 or more years ago
Don't know / Not sure
Never

3.4 About how long has it been since you last visited a doctor for a routine checkup? A routine checkup is a general physical exam, not an exam for a specific injury, illness, or condition.

4.1 Have you EVER been told by a doctor, nurse, or other health professional that you have high blood pressure?
Yes
Yes, but female told only during pregnancy
No
Told borderline high or pre-hypertensive
Don't know / Not sure

4.2 Are you currently taking medicine for your high blood pressure?
Yes
No
Don't know / Not sure

5.1 Blood cholesterol is a fatty substance found in the blood. Have you EVER had your blood cholesterol checked?

Yes
No
Don't know / Not sure

5.2 About how long has it been since you last had your blood cholesterol checked?

5.3 Have you EVER been told by a doctor, nurse or other health professional that your blood cholesterol is high?

Yes
No
Don't know / Not sure

Has a doctor, nurse, or other health professional EVER told you that you had any of the following? For each, tell me "Yes," "No," or you're "Not sure."
6.1 (Ever told) you that you had a heart attack also called a myocardial infarction?
Yes
No
Don't know / Not sure

6.2 (Ever told) you had angina or
Yes
No
Don't know / Not sure

6.3 (Ever told) you had a stroke?
>Yes
>No
>Don't know / Not sure

6.4 (Ever told) you had asthma?
>Yes
>No
>Don't know / Not sure

6.5 Do you still have asthma?
>Yes
>No
>Don't know / Not sure

6.6 (Ever told) you had skin cancer?
>Yes
>No
>Don't know / Not sure

6.7 (Ever told) you had any other types of cancer?
>Yes
>No
>Don't know / Not sure

6.8 (Ever told) you have Chronic Obstructive Pulmonary Disease or COPD, emphysema or chronic bronchitis?

>Yes
>No
>Don't know / Not sure

6.9 (Ever told) you have some form of arthritis, rheumatoid arthritis, gout, lupus, or fibromyalgia?
>Yes
>No
>Don't know / Not sure

6.10 (Ever told) you have a depressive disorder, including depression, major depression, dysthymia, or minor depression?
>Yes
>No
>Don't know / Not sure

6.11 (Ever told) you have kidney disease? Do NOT include kidney stones, bladder infection or incontinence.
>Yes
>No
>Don't know / Not sure

6.12 (Ever told) you have diabetes?

If "Yes" and respondent is female, ask: "Was this only when you were pregnant?" If respondent says pre-diabetes or borderline diabetes, use response code 4.

Yes

Yes, but female told only during pregnancy

No

No, pre-diabetes or borderline diabetes

Don't know / Not sure 9 Refused

6.13 How old were you when you were told you have diabetes?

7.1 Indicate sex of respondent.

7.2 What is your age?

7.3 Are you Hispanic, Latino/a, or Spanish origin?

If yes, ask: Are you...

Mexican, Mexican American, Chicano/a

Puerto Rican

Cuban

Another Hispanic, Latino/a, or Spanish origin

No

Don't know / Not sure 9 Refused

7.4 Which one or more of the following would you say is your race? Select all that apply.

White

Black or African American

American Indian or Alaska Native 40 Asian

Asian Indian

Chinese

Filipino

Japanese

Korean

Vietnamese

Other Asian

Pacific Islander

Native Hawaiian

Guamanian or Chamorro

Samoan

Other Pacific Islander

No additional choices

7.5 Which one of these groups would you say best represents your race?

White

Black or African American American Indian or Alaska Native

Asian

Asian Indian

Chinese

Filipino

Japanese
Korean
Vietnamese
Other Asian
Pacific Islander
Native Hawaiian
Guamanian or Chamorro
Samoan
Other Pacific Islander
Other
Don't know / Not sure

7.6 Are you...?
Married
Divorced
Widowed
Separated
Never married
A member of an unmarried couple

7.7 What is the highest grade or year of school you completed?

7.8 Do you own or rent your home?
Own
Rent
Other arrangement
Don't know / Not sure

7.9 What county do you live in?

7.10 What is the ZIP Code where you live?

7.11 Do you have more than one telephone number in your household?
Yes
No
Don't know / Not sure

7.12 How many of these telephone numbers are residential numbers?

7.13 Do you have a cell phone for personal use? Please include cell phones used for both business and personal use.
Yes
No
Don't know / Not sure

7.14 Have you ever served on active duty in the United States Armed Forces, either in the regular military or in a National Guard or military reserve unit?
Yes
No

7.15 Are you currently...? Please read:
    Employed for wages
    Self-employed
    Out of work for 1 year or more
    Out of work for less than 1 year
    A Homemaker
    A Student
    Retired
    Unable to work

7.16 How many children less than 18 years of age live in your household?

7.17 Is your annual household income from all sources…?

7.18 Have you used the internet in the past 30 days?
    Yes
    No
    Don't know / Not sure

7.19 About how much do you weigh without shoes?

7.20 About how tall are you without shoes?

7.21 To your knowledge, are you now pregnant?
    Yes
    No
    Don't know / Not sure

7.22 Are you limited in any way in any activities because of physical, mental, or emotional problems?
    Yes
    No
    Don't know / Not sure

7.23 Do you now have any health problem that requires you to use special equipment, such as a cane, a wheelchair, a special bed, or a special telephone?
    Yes
    No
    Don't know / Not sure

7.24 Are you blind or do you have serious difficulty seeing, even when wearing glasses? (189)
    Yes
    No
    Don't know / Not Sure

7.25 Because of a physical, mental, or emotional condition, do you have serious difficulty concentrating, remembering, or making decisions?
    Yes

No
Don't know / Not sure

7.26 Do you have serious difficulty walking or climbing stairs?
Yes
No
Don't know / Not sure

7.27 Do you have difficulty dressing or bathing?
Yes
No
Don't know / Not sure

7.28 Because of a physical, mental, or emotional condition, do you have difficulty doing errands alone such as visiting a doctor's office or shopping?
Yes
No
Don't know / Not sure

8.1 Have you smoked at least 100 cigarettes in your entire life?
Yes
No
Don't know / Not sure

8.2 Do you now smoke cigarettes every day, some days, or not at all?
Every day
Some days
Not at all
Don't know / Not sure

8.3 During the past 12 months, have you stopped smoking for one day or longer because you were trying to quit smoking?
Yes
No
Don't know / Not sure

8.4 How long has it been since you last smoked a cigarette, even one or two puffs? (197-198)
Within the past month (less than 1 month ago)
Within the past 3 months (1 month but less than 3 months ago)
Within the past 6 months (3 months but less than 6 months ago)
Within the past year (6 months but less than 1 year ago)
Within the past 5 years (1 year but less than 5 years ago)
Within the past 10 years (5 years but less than 10 years ago)
10 years or more
Never smoked regularly
Don't know / Not sure

8.5 Do you currently use chewing tobacco, snuff, or snus every day, some days, or not at all? Snus (rhymes with 'goose')

> Every day
> Some days
> Not at all
> Don't know / Not sure

9.1 During the past 30 days, how many days per week or per month did you have at least one drink of any alcoholic beverage such as beer, wine, a malt beverage or liquor?

> Days per week
> Days in past 30 days
> No drinks in past 30 days Don't know / Not sure

9.2 One drink is equivalent to a 12-ounce beer, a 5-ounce glass of wine, or a drink with one shot of liquor. During the past 30 days, on the days when you drank, about how many drinks did you drink on the average?

9.3 Considering all types of alcoholic beverages, how many times during the past 30 days did you have X [CATI X = 5 for men, X = 4 for women] or more drinks on an occasion?

> _ _ Number of times

9.4 During the past 30 days, what is the largest number of drinks you had on any occasion?

10.1 During the past month, how many times per day, week or month did you drink 100% PURE fruit juices? Do not include fruit-flavored drinks with added sugar or fruit juice you made at home and added sugar to. Only include 100% juice.

10.2 During the past month, not counting juice, how many times per day, week, or month did you eat fruit? Count fresh, frozen, or canned fruit.

10.3 During the past month, how many times per day, week, or month did you eat cooked or canned beans, such as refried, baked, black, garbanzo beans, beans in soup, soybeans, edamame, tofu or lentils. Do NOT include long green beans.

10.4 During the past month, how many times per day, week, or month did you eat dark green vegetables for example broccoli or dark leafy greens including romaine, chard, collard greens or spinach?

10.5 During the past month, how many times per day, week, or month did you eat orange- colored vegetables such as sweet potatoes, pumpkin, winter squash, or carrots?

10.6 Not counting what you just told me about, during the past month, about how many times per day, week, or month did you eat OTHER vegetables? Examples of other vegetables include tomatoes, tomato juice or V-8 juice, corn, eggplant, peas, lettuce, cabbage, and white potatoes that are not fried such as baked or mashed potatoes.

11.1 During the past month, other than your regular job, did you participate in any physical activities or exercises such as running, calisthenics, golf, gardening, or walking for exercise?

> Yes
> No
> Don't know / Not sure

11.2. What type of physical activity or exercise did you spend the most time doing during the past month?

11.3 How many times per week or per month did you take part in this activity during the past month?

11.4 And when you took part in this activity, for how many minutes or hours did you usually keep at it?

11.5 What other type of physical activity gave you the next most exercise during the past month?

11.6 How many times per week or per month did you take part in this activity during the past month?

11.7 And when you took part in this activity, for how many minutes or hours did you usually keep at it?

11.8 During the past month, how many times per week or per month did you do physical activities or exercises to STRENGTHEN your muscles? Do NOT count aerobic activities like walking, running, or bicycling. Count activities using your own body weight like yoga, sit-ups or push-ups and those using weight machines, free weights, or elastic bands.

12.1 Are you now limited in any way in any of your usual activities because of arthritis or joint symptoms?
     Yes
     No
     Don't know / Not sure 9 Refused

12.2 In this next question, we are referring to work for pay. Do arthritis or joint symptoms now affect whether you work, the type of work you do, or the amount of work you do?
     Yes
     No
     Don't know / Not sure

12.3 During the past 30 days, to what extent has your arthritis or joint symptoms interfered with your normal social activities, such as going shopping, to the movies, or to religious or social gatherings?
     A lot
     A little
     Not at all
     Don't know / not sure

12.4 Please think about the past 30 days, keeping in mind all of your joint pain or aching and whether or not you have taken medication. DURING THE PAST 30 DAYS, how bad was your joint pain ON AVERAGE? Please answer on a scale of 0 to 10 where 0 is no pain or aching and 10 is pain or aching as bad as it can be.

13.1 How often do you use seat belts when you drive or ride in a car? Would you say—
     Always
     Nearly always
     Sometimes
     Seldom
     Never

14.1 During the past 12 months, have you had either a flu shot or a flu vaccine that was sprayed in your nose?

Yes
No
Don't know / Not sure

14.2 During what month and year did you receive your most recent flu shot injected into your arm or flu vaccine that was sprayed in your nose?

14.3 At what kind of place did you get your last flu shot/vaccine? Note: Read only if necessary
      A doctor's office or health maintenance organization (HMO)
      A health department
      Another type of clinic or health center (Example: a community health center)
      A senior, recreation, or community center
      A store (Examples: supermarket, drug store)
      A hospital (Example: inpatient)
      An emergency room
      Workplace
      Some other kind of place
      Received vaccination in Canada/Mexico (Volunteered – Do not read)
      A school
      Don't know / Not sure

14.4 A pneumonia shot or pneumococcal vaccine is usually given only once or twice in a person's lifetime and is different from the flu shot. Have you ever had a pneumonia shot?
      Yes
      No
      Don't know / Not sure

15.1 Have you ever been tested for HIV? Do not count tests you may have had as part of a blood donation. Include testing fluid from your mouth.
      Yes
      No
      Don't know / not sure

15.2 Not including blood donations, in what month and year was your last HIV test?

15.3 Where did you have your last HIV test — at a private doctor or HMO office, at a counseling and testing site, at an emergency room, as an inpatient in a hospital, at a clinic, in a jail or prison, at a drug treatment facility, at home, or somewhere else?
      Private doctor or HMO office
      Counseling and testing site
      Emergency room
      Hospital inpatient
      Clinic
      Jail or prison (or other correctional facility)
      Drug treatment facility
      At home
      Somewhere else
      Don't know / Not sure

APPENDIX D

Transcript of Video Providing Consent and Instructions of Survey

Transcript of Video Providing Consent and Instructions of Survey

This transcript was presented to participants before completing all questions:

Hello, my name is Megan Dillon and this survey is part of the master's thesis project for myself, and for Kaitlin McKinley of Western Michigan University. Simply put we are looking at music preferences and what kind of music everybody likes. So you'll be shown a series of 7 different YouTube videos which contain 30 second excerpts of each song and then you'll be asked a few questions on each one. First we're going to ask you to rate each song on a scale of boring versus exciting, depressing versus uplifting, and a simple five star rating scale. So when you hit play on the YouTube video, you'll start to hear the music and you'll see a screen that looks something like this: *sample previous rating scales shown in video*. If you don't see the screen like this and it's just black it just because you're the first person to listen to that particular song excerpt and we don't have that information for that particular song just yet. Following the excerpts you'll be asked to complete a short demographic survey, and also be given the opportunity to enter your email address. We use your email address to contact you regarding information about the survey after we start getting results in if you're interested in any of that. All of your answers will be kept anonymous but if at any point during the survey you want to exit please feel free to close your browser. And if you have any questions, or comments, or concerns please feel free to contact me, megan.l.dillon@wmich.edu, or Kaitlin, kaitlin.e01.mckinley@wmich.edu, or Professor Ed Roth, edward.roth@wmich.edu. Thank you so much and keep in mind that in by hitting the next button, you are consenting to taking our survey. Thank you.

APPENDIX E

Transcript of Video Providing Debrief of Survey

Transcript of Video Providing Debrief of Survey

This transcript was presented to participants upon completing all questions:

That concludes our survey, thank you so much for taking the time to help us out. The first purpose was to see if you answered differently about your reactions to the music excerpts if you were provided with supposed feedback of your peers. And the second was to see if your sociocultural background or current situation had any effect on your music preferences. Now that you know the true nature of the study, if you do not want your answers to be used you may close out of your browser and all of your answers will be deleted with no consequence to you. If you feel comfortable with us using your data, you may hit the button below in just a moment. You will also see a space below to leave your email address if you would like information regarding this study once we've analyzed all of the results. Lastly, the more people to take this survey the better. So we ask that you please pass this on to friends, family, colleagues, acquaintances who may be willing to take part. You can simple copy and paste the email or the social media post that initially brought you to this survey. Once again thank you so much, we really appreciate it, and have a great day.

APPENDIX F

HSIRB Approval Letter

WESTERN MICHIGAN UNIVERSITY

Human Subjects Institutional Review Board

Date: October 5, 2017

To: Edward Roth, Principal Investigator
         Megan Dillon, Student Investigator for thesis
         Kaitlin McKinley, Student Investigator for thesis

From: Amy Naugle, Ph.D., Chair

Re: HSIRB Project Number 17-09-51

This letter will serve as confirmation that your research project titled "Relationship among Sociocultural Demographics, Health Status, and Social Feedback on Music Preferences" has been **approved** under the **exempt** category of review by the Human Subjects Institutional Review Board. The conditions and duration of this approval are specified in the Policies of Western Michigan University. You may now begin to implement the research as described in the application.

Please note: This research may **only** be conducted exactly in the form it was approved. You must seek specific board approval for any changes in this project (e.g., ***you must request a post approval change to enroll subjects beyond the number stated in your application under "Number of subjects you want to complete the study***)." Failure to obtain approval for changes will result in a protocol deviation. In addition, if there are any unanticipated adverse reactions or unanticipated events associated with the conduct of this research, you should immediately suspend the project and contact the Chair of the HSIRB for consultation.

Reapproval of the project is required if it extends beyond the termination date stated below.

The Board wishes you success in the pursuit of your research goals.

Approval Termination: **October 4, 2018**