

THE EFFECTS OF MUSIC ON MOOD, ANXIETY, AND JOB SATISFACTION:  
SELF-REPORTS FROM OCCUPATIONAL WORKERS

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by

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San Marcos, Texas  
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## **ABSTRACT**

### **THE EFFECTS OF MUSIC ON MOOD, ANXIETY, AND JOB SATISFACTION: SELF-REPORTS FROM OCCUPATIONAL WORKERS**

by

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May 2012

#### **SUPERVISING PROFESSOR: CRYSTAL OBERLE**

The effects of music on mood, anxiety and job satisfaction were investigated within an occupational setting of employees in a cardiologist office. All participants were exposed to nine consecutive Monday workdays alternating between classical music, dance/electronic music, or no music being played in the background throughout the workday. Participants' self-reported positive and negative affect, state anxiety, and job satisfaction levels were measured twice during each experimental workday. 3 x 2 mixed-design ANOVAs and chi-square tests of association were used to assess the effects of the music intervention. Only two ANOVAs approached significance: music's effect on anxiety and music's effect on job satisfaction. Significant associations in subsequent chi-

square tests were found, supporting the effects of music on anxiety and job satisfaction.

# **CHAPTER I**

## **INTRODUCTION**

The aim of this study was to assess the effects of music on mood, anxiety, and job satisfaction in an occupational setting while controlling for impression management. This study was unique in that it looked at positive affect, negative affect, and anxiety, in addition to job satisfaction, in a real world setting with real world stressors and influences as opposed to a psychology lab setting that tries to inflict artificial effects. Further, there are contradictory findings in previous research as to whether music does in fact have significant effects on mood, anxiety, and job satisfaction.

### **Background and Problem Statement**

An individual's mood and levels of anxiety can fluctuate throughout the day, every day, and are influenced by a number of different factors. Levels of job satisfaction can fluctuate as well, but they tend to be assessed using instruments that measure more stable and long-term satisfaction (Barrios-Choplin, McCraty, & Cryer, 1997; Brooks, Bradt, Eyre, Hunt, & Dileo, 2010; Heller & Watson, 2005; Oldham, Cummings, Mischel, Schmidtke, & Zhou, 1995). Momentary job satisfaction, as a result of the events and influential factors that occurred throughout the day, is rarely assessed (Heller & Watson, 2005). Music has been a part of life since prehistoric times and can be described as a universal language (Halstead & Roscoe, 2002; Kemper & Danhauer, 2005). A number of previous studies reveal the beneficial effects that music can have on multiple facets of an

individual's everyday life (Emery, Hsiao, Hill, & Frid, 2003; Halstead & Roscoe, 2002; Harmat, Takacs, & Bodizs, 2008; Kallinen & Ravaja, 2004; Kemper & Danhauer, 2005; Labbé, Schmidt, Babin, & Pharr, 2007; Lesiuk, 2008; Nittono, Tsuda, Akai, & Nakajima, 2000; Oldham et al., 1995; Phipps, Carroll, & Tsiantoulas, 2010; Szabo, Ainsworth, & Danks, 2005; Taylor, 1991; West, 1994; Wolfe, 1995). There is a need to find a practical, cost effective, and easy intervention that can improve mood, and reduce anxiety levels that result from workplace environments and life in general (Smith, 2008), as well as increase job satisfaction.

#### Purpose of the Study

The purpose of this study was to determine the effects of music on mood, anxiety, and job satisfaction in an occupational setting while controlling for impression management. This information will provide more evidentiary support for the positive effects of music, specifically in regards to mood and anxiety. This information will also indicate if job satisfaction can be influenced by listening to different types of music throughout a workday.

#### Significance of the Study

The significance of this study is that it showed music, regardless of the type, can improve job satisfaction and that greater anxiety occurs when either no music or dance/electronic music is played in the background. This research could disclose to employers that playing music in the background can enhance job satisfaction and at the same time reveal the notion that playing the wrong music or no music at all can intensify anxiety levels.

## Overview of Methodology

The study was conducted at the researcher's place of work, New Braunfels Cardiology (NBC), where a convenience sample of employees was obtained. This research entailed a 3 x 2 mixed design experiment. Controlled trials were conducted comparing working in two different music conditions (i.e., classical music and dance/electronic music) as the experimental condition and working in silence as the control condition. In addition, two chi-square tests of association were conducted. The first chi-square test assessed the association between the three music types and the greatest amount of anxiety, in addition to the three music types and the greatest amount of job satisfaction. The second set of chi-square tests of association were conducted to assess music and level of anxiousness, in addition to the association of music and the level of job satisfaction.

This study assessed the effects of music on a person's mood, anxiety, and job satisfaction while controlling for impression management. The independent measure of impression management was obtained from the participants' self-report survey measurements, pre intervention. The dependent measure of mood was obtained from the participants' self-report survey measurements, twice during each intervention. The dependent measure of anxiety was obtained from the participants' self-report survey measurements, twice during each intervention. The dependent measure of job satisfaction was obtained from the participants' self-report survey measurements, twice during each intervention.

Participants were recruited by the researcher at work, and if they consented to partake in the study, they were then asked to first complete Research Survey 1 (with the

demographic questions and the impression management survey). Two different SiriusXM radio stations were used, one that played traditional classical music and another that played dance/electronic music. The control condition consisted of no music. Each participant had a total of nine trials (i.e., nine days), three with classical music played in the background during the workday, three with dance/electronic music played, and three with no music played. These three music conditions were administered on nine consecutive Monday workdays. The trials were only conducted on Mondays in attempt to control for the stress and workload levels of different workdays throughout the week. There were two assessment times during each of these nine days. Each person was asked to complete Research Survey 2 (with the affect, anxiety, and job satisfaction surveys) when they clocked out for lunch and when they clocked out at the end of the Monday workday. Two months after the conclusion of the study, participants were asked to fill out Research Survey 3, which asked specific questions pertaining to the participants' recollection of mood, anxiety, and job satisfaction at the time of the study.

### Research Questions and Hypotheses

This study has added to the body of literature by including the effects of music on mood, anxiety, and job satisfaction, while controlling for impression management within occupational workers, using three different types of music. The primary research questions addressed (a) music's effect on mood while controlling for impression management, (b) music's effect on anxiety while controlling for impression management, and (c) music's effect on job satisfaction while controlling for impression management. The corresponding null hypotheses are provided below.

H<sub>0</sub>1: Music will not have a significant effect on mood while controlling for impression management.

H<sub>0</sub>2: Music will not have a significant effect on anxiety while controlling for impression management.

H<sub>0</sub>3: Music will not have a significant effect on job satisfaction while controlling for impression management.

### Limitations

There were a few limitations to this study. One limitation of this study was the small sample size that was used. Only 28 participants completed the study. A second limitation of this study is that a self-report questionnaire was used to measure levels of mood, anxiety, and job satisfaction. However, the researchers did try to control for one of the confines of using a self-report measure, which is the social desirability effect, by having the participants fill out the impression management scale. Finally, the researcher did not measure any covariates or extraneous variables (e.g., predisposed personal characteristics, family or personal conflicts at home, illness, injury) that may have also influenced mood, anxiety, and job satisfaction.

### Delimitations

A delimitation of this study was the decision to use a convenience sample of employees at NBC, which is where the researcher works. The researcher wanted to use an occupational setting in hopes that the findings would be generalizable outside of the most common research sample (i.e., college freshman). However, this still limits the ability to generalize the findings outside of this particular work setting. Employees who do not

work at NBC may yield different characteristics and, therefore, are not denoted by this sample.

### Assumptions

It is assumed that all participants were honest on all of the self-report questionnaires that they filled out.

### Definition of Key Terms

Below are the definitions of key terms, which clarify the differing measures involved within the research of this thesis.

1. Mood – positive affect: How much a person professes a zest for life (George, 1989).
2. Mood – negative affect: How upset or unpleasantly aroused a person feels (George, 1989).
3. State anxiety: An unpleasant emotional occurrence, a temporary emotional situation or feeling state that is represented by subjective, knowingly perceived feelings of apprehension and tension, and enhanced autonomic nervous system activity (Spielberger, 1983).
4. State job satisfaction: “A pleasurable or positive emotional state resulting from the appraisal of one’s job or job experiences” (Locke, 1976, p. 1304).
5. Impression management: “An active self-presentation of a person aiming to enhance his image in the eyes of others” (Sinha, 2009, p. 104), as well as an “act presenting a favorable public image of oneself so that others will form positive judgments” (Newman, 2009, p. 184).

## Organization of the Thesis

This thesis is divided into five chapters. The first chapter is the introduction and describes the background of the study and the problem statement, the purpose of the study, the significance of the study, an overview of the methodology, the research questions and hypotheses, limitations, delimitations, assumptions, and definitions of key terms. The second chapter is the review of the literature that lays the foundation for the current study. The third chapter describes in detail the methods that were used to gather the data for this study including instruments and techniques. The fourth chapter reports the results of the study. The fifth chapter includes a discussion of the results and their implications.

## CHAPTER II

### LITERATURE REVIEW

Life in general is stressful and provokes an array of emotional responses no matter what profession or career someone pursues. Something as simple as listening to music may be overlooked or underestimated for its potential to have positive effects on everyday apprehensions, social pressures, mood, anxiety, and even job satisfaction. Music is applicable to anyone and is often deemed a universal language (Halstead & Roscoe, 2002). According to Kemper and Danhauer (2005), music has been around since prehistoric times and was used even then to enhance personal health and decrease distress. The curative power of music has been used as a method of comfort at times of illness, loss, and grief (Phipps et al., 2010). Anxiety, stress and negative mood can contribute to an array of health-related problems such as sleep disturbances, hypertension, emotional regulation, cardiovascular disease, gastrointestinal problems, and can possibly lead to death (Smith, 2008). Music has been proven to influence the behavior of occupational workers, by affecting the quality of work, work rate, and job satisfaction (Nittono et al., 2000; Oldham et al., 1995; Ravaja & Kallinen, 2004; Shih, Huang, & Chiang, 2009). There is a need to find an easy, cost effective, and practical intervention that can reduce stress levels and increase positive mood that result from workplace environments and life in general (Smith, 2008). Listening to music is simple and readily available for almost anybody who chooses to use it in everyday life. This

chapter presents a review of research and literature on the effects of music in various domains (i.e., medical settings) and the importance of personal music choices, the effects of music on anxiety and mood, and finally music's effects on job satisfaction.

### Music in Medicine and Personal Choices

The medical field has paid a great deal of attention to the effects that music can have on pre-operative patients, participants in cardiac rehabilitation programs due to coronary artery disease, and even nurses themselves. In a study conducted by Wolfe (1995), the researchers let the participants choose one of five types of music to listen to while they were in a surgical holding room waiting for an operation. The results of the study showed that the participants who were in the music group had stress levels that were significantly lower than those in the control condition at the time of their transfer to the operating room. Taylor (1991) investigated the effects of social support, music, and exercise on depression, anxiety, and post treatment stress of nurses. The study found that social support, music, and exercise all may reduce stress for female nurses, but in contrast, no main effect was found for anxiety or depression. However, the results did not warrant causal conclusions so the findings are only suggestions. Researchers of a study done in 2003 involving participants in a cardiac rehabilitation program took an alternate approach and looked at the effects of music and exercise on cognitive performance rather than on stress or anxiety (Emery et al., 2003). They found that music and exercise may simultaneously affect cognitive performance. Recently, according to Harmat et al. (2008), relaxing music has even been used as an effective intervention to decrease problems with sleep such as insomnia specifically in nurses.

Personally selected music, as opposed to prescribed music, is an essential element in music's effectiveness (Lesiuk, 2008). Lesiuk (2008) examined the effect of preferred music listening on stress levels, anxiety, and physical responses of air traffic controllers. During their break, participants either sat in silence or listened to their preferred music through a headset for 15 minutes. Sitting in silence, as well as listening to music decreased psychological anxiety over time but not between conditions, and both silence and listening to music failed to decrease physiological indicators of anxiety between or within groups. The results suggested that both conditions were conducive to stress-reducing and relaxation techniques. The researcher described a limitation to the study being that the preferred music selection was somewhat limited by allowing participants to choose the genre but not specific song choice. Therefore, it is likely that genre would not reduce anxiety as efficiently as specific choices of music. An additional study conducted by Halstead and Roscoe (2002) claimed that in order to heighten the effectiveness of music as an intervention, a researcher needs to establish and define individual musical preferences that gives the participants control over their musical selections. From a theoretical sense, faster tempos arouse or invigorate, while slower tempos enhance relaxation tactics by producing slower heart and respiratory rates (Halstead & Roscoe, 2002; West, 1994). Ultimately, by carefully choosing the appropriate music in regards to the patients' needs and preferences, oncology nurses, in Halstead and Roscoe's (2002) intervention, improved the quality of life for patients dying or approaching the end of their life in hospice care.

## Music, Anxiety, and Mood

People listen to music for all different kinds of reasons, whether it is to relax or to get them into an enjoyable or good mood, in addition to accompanying everyday activities such as driving a car or even doing homework (Kallinen & Ravaja, 2004; Sloboda, O'Neill, & Ivaldi, 2000). Previous studies have shown that listening to classical or self-selected music after being presented with something stressful will decrease arousal and state traits such as anxiety. The comparison group for this study was either sitting in silence or listening to heavy metal music (Labbé et al., 2007). Szabo et al. (2005) found that humor, aerobic exercise, and music can significantly reduce negative affect when compared to their control condition of sitting quietly. In addition, this study confirms and reinforces other previous research that music can generate direct psychological benefits.

One area of research has paid particular attention to music's influence on mood, or more specifically emotions expressed through positive affect (PA) and negative affect (NA). A growing area of concern has been the notion that certain kinds of music can stimulate negative and antisocial emotions, consequently creating or facilitating destructive behaviors (Stratton & Zalanowski, 1997). Stratton and Zalanowski (1997) assessed three different population samples to determine their distinctive moods and the types of music those people typically listened to. Findings for college students who listened to mostly rock revealed a correlation with sensation seeking, anxiety, and depression, and a negative correlation with PA. Noncollege adults reported almost as much rock listening, yet there was no relationship between negative moods and the amount of rock they listened to; however, a small correlation between PA and classical

music was found. For faculty and staff who preferred classical music, that music was positively correlated with anxiety, depression, and hostility. The latter finding is one that future research needs to expand upon because classical music has not been known to uncover antisocial tendencies and negative feelings. Contradicting findings were revealed in Ballard and Coates (1995) when they assessed the effect of nonviolent heavy metal, homicidal, suicidal, and rap songs on the moods of college students. It was expected that state anxiety and anger would vary as a result of lyrical content in rap music versus heavy metal. However, music type and lyrical content did not affect participant responses on suicidal ideation, self-esteem, or anxiety.

Arntén, Jansson, and Archer (2008) took a more profound approach in the investigation of mood by assessing the involvement of affective personality types and gender, in addition to expressions of stress and coping behavior. Anxiety, stress and energy, and work stress predicted NA, while optimism was a counter-predictor. Coping ability, energy, optimism, and good partnership relations predicted PA, while depression was a counter-predictor. In addition, female participants conveyed higher levels of anxiety, emotional and spiritual coping, stress and energy, work burden, and work stress. This latter finding rationalizes the fact that the overwhelming majority of participants in the sample for this thesis were women, concluding that NA should be related to higher levels of anxiety in the female participants. Moreover, Kallinen and Ravaja (2004) investigated whether personality regulates the influence of music on the emotional state of participants. The study revealed that affect ratings indicated that positive activation and pleasantness increased (i.e., an increase in positive mood and arousal), especially in

individuals who are characterized by anxiety proneness and neuroticism after a music listening session.

### Job Satisfaction

Several researchers have looked at differing factors that influence job satisfaction and subsequently job performance. One factor of particular importance is family or marriage satisfaction. Heller and Watson (2005) expanded on previous research in the field by assessing the relations between job and marital satisfaction and the mediating function of mood. The researchers found significant associations between, “job satisfaction in the afternoon and marital satisfaction at night” and “marital satisfaction at night and job satisfaction the following afternoon,” regardless of the time interval and sleep duration between the latter two ratings (p. 1277). Positive mood was found to mediate the relationship between marriage satisfaction in the evening and job satisfaction during the afternoon of the next day. These findings reiterated the notion that satisfaction in one role can transfer into another role, and mood mediates the relationship in determining whether the various roles are enhancing or diminishing, all of which was previously studied by Rothbard (2001).

Stress is another factor that has an impact on job satisfaction. According to Barrios-Choplin et al. (1997), over 150 million Americans experience high levels of stress and more than half of those Americans claim they have felt ‘great stress’ once or twice a week, with one fourth reporting high levels of stress ‘nearly every day.’ Individuals who are stressed can undergo psychological symptoms such as feelings of listlessness, anxiety, irritability, dissatisfaction, and forgetfulness (Barrios-Choplin et al., 1997; Broers, Evers, & Cooper, 1995). Barrios-Choplin et al. (1997) looked at the

implementation of an Inner Quality Management program (IQM) that was designed to facilitate the increase of productivity through goal clarity, health, communication, and mood and job satisfaction, which is likewise, what the current study is interested in. The results showed that the program was successful at increasing job satisfaction and communication, while some of the groups reported lower levels of anxiety, nervousness, tension, and physical stress. The implication of their findings suggests that self-management towards beneficial and essential stress responses can maximize the workforces' well-being and health, ultimately resulting in reducing the billions of dollars spent on poor productivity and employee burnout that is subsequently a result of inadequate self-management.

A few studies have looked at music and its effect on concentration levels, work performance, organization satisfaction, self-reported burnout, sense of coherence, and job satisfaction. Oldham et al. (1995) looked at the relationships between the use of a personal-stereo headset, where employees were allowed to listen to any type of music programming during the work shift, and employee work responses. The researchers found that employees who used a personal-stereo headset, in comparison to those that did not, exhibited significant increases in organization satisfaction and work performance. In addition, the researchers assessed some mediating conditions in relation to their effectiveness between headset use and outcomes. The relation between stereo use and work performance was explained most effectively with the mood state of relaxation, whereas the association between stereo use and organization satisfaction was explained most effectively by environmental interferences. In comparison, Shih, Huang, and Chiang (2009) focused more on concentration levels in relation to background music.

Participants either took a ten-minute attention test in silence, took a ten-minute attention test while they listened to classical music in the background, or listened to classical music ten minutes before they took the attention test. The researchers found that all three test conditions affected the worker's performance on different levels. The participants who listened to the classical music prior to the test achieved higher scores in attentiveness, yet those participants who listened to the classical music during the test showed extreme variations in their attention scores; some workers' performance speed slowed down, while other workers' performance sped up. The researchers suggest that people respond differently to various types of music. Some people need more up-tempo music to increase concentration levels, while others may need slower rhythmic sounds to keep them focused. Moreover, a different study examined the effects of music-imagery on job satisfaction, self-reported burnout, and sense of coherence in nursing personnel (Broers, Evers, & Cooper, 1995). This study, in contrast to Oldham et al. (1995), did not find significant results from the effects of music revealing more inconsistencies in the research.

This chapter reviewed the literature about the differing effects music can have on individuals in medical settings and occupational settings, as well as music's effect on anxiety, stress, mood states, concentration levels, job burnout and job satisfaction. However, given the mixed and contradictory findings in the previous research, additional research is needed to verify whether music does in fact have significant effects on mood, anxiety, and job satisfaction.

## **CHAPTER III**

### **METHODS**

The purpose of this study was to determine whether music has a significant effect on mood, anxiety and job satisfaction. This chapter describes the research methodology, procedures, and instruments used in the study, which consists of the following sections: research perspective, research design, research questions and hypotheses, participants, research variables, research instrument, data collection procedures, data collection and statistical analyses, setting and environment, bias and error, reliability and validity, and a summary.

#### **Research Perspective**

This research study was directed by a curiosity in understanding the emotions, feelings, and satisfaction expressed by individuals when they listen to different types of music. This study was also aimed at discovering the specific effects of music on self-reported affect, anxiety, and state job satisfaction.

#### **Research Design**

The design of this research was a 3 x 2 mixed design experiment. Controlled trials were conducted comparing working in two different music conditions (i.e., classical music and dance/electronic music) as the experimental condition and working in silence as the control condition. In addition, two sets of chi-square tests of association were

conducted. The first chi-square tests assessed the association between the three music types and the greatest amount of anxiety, in addition to the three music types and the greatest amount of job satisfaction. The second chi-square tests of association assessed music and level of anxiousness, in addition to the association of music and the level of job satisfaction.

### Research Questions and Hypotheses

This study has added to the body of literature by including the effects of music on mood, anxiety, and job satisfaction, while controlling for impression management within occupational workers, using three different types of music. The primary research questions addressed (a) music's effect on mood while controlling for impression management, (b) music's effect on anxiety while controlling for impression management, and (c) music's effect on job satisfaction while controlling for impression management. The corresponding null hypotheses are provided below.

H<sub>0</sub>1: Music will not have a significant effect on mood while controlling for impression management.

H<sub>0</sub>2: Music will not have a significant effect on anxiety while controlling for impression management.

H<sub>0</sub>3: Music will not have a significant effect on job satisfaction while controlling for impression management.

### Participants

Participants included 27 female employees and 1 male employee at New Braunfels Cardiology (NBC). Only one participant was excluded because they were not present for at least two of the three days for each music condition. With approval from the office

administration, employees were allowed to participate if they so choose. No compensation was provided for the participants. Participants had a mean age ( $\pm$  SD) of  $39.86 \pm 12.66$  years. Most participants (67.9%) were Hispanic, while the remaining 32.1% were Caucasian. All participants appeared to be in good physical and mental health.

### Research Variables and Instruments

Music was a within-subjects factor with three levels: Classical music, Dance/Electronic music, and No music. This study had one independent measure of impression management, which is derived from the *Balanced Inventory of Desirable Responding* scale (BIDR; Paulhus, 1988; see Appendix A) and was used as a control measure because the researcher is known to the respondents. Individual scores were obtained from the participants' self-report measurements, pre intervention, and ranged from 51 to 133, with a median split of 88. Lower scores represent lower levels of impression management and higher scores represent higher levels of impression management. This measure can be compared to a measure that would control for social desirability.

This study had four interval dependent variables from participants' self-report questionnaires: self-report of positive affect (PA), self-report of negative affect (NA), self-report of anxiety, and self-report of job satisfaction. The self-report score for PA comes from the positive affect component of the *Positive and Negative Affect Schedule*, and the self-report score for NA comes from the negative affect component of the *Positive and Negative Affect Schedule* (PANAS; Watson, Clark, & Tellegen, 1988; see Appendix B). The PANAS consists of 10 adjectives for the PA component and 10

adjectives for the NA component. Participants were asked to appraise how they felt at that present moment. Individual scores for PA were obtained from the participants' self-report measurements, twice during each intervention, and ranged from 10 to 50, whereas individual scores for NA ranged from 10 to 34, with lower PA and NA scores representing lower levels of PA and NA, respectively. The self-report score for anxiety comes from the *State-Trait Anxiety Inventory, Form Y1* (STAI-Y1; Spielberger, 1983; see Appendix C). The STAI-Y1 consisted of 20 items that asked participants to rate how they felt at that present moment. Individual scores were obtained from the participants' self-report measurements, twice during each intervention, and ranged from 20 to 73, with lower scores representing lower levels of anxiety and higher scores representing higher levels of anxiety. The self-report score for job satisfaction comes from a modified version of the Brayfield-Rothe job satisfaction scale (Brayfield & Rothe, 1951; see Appendix D). The job satisfaction scale is a 5 item questionnaire that asks participants to rate how they felt about their job satisfaction at that moment. The individual scores were obtained from the participants' self-report measurements, twice during each intervention, and ranged from 10 to 35, with lower score representing lower levels of job satisfaction and higher scores representing higher levels of job satisfaction. In addition, this study had one final instrument that was administered two months after the conclusion of the study (Research Survey 3, see Appendix E). This was a survey derived by the researcher, which asked specific questions pertaining to the participants' recollection of mood, anxiety, and job satisfaction at the time of the study.

## Research Procedures

Participants were recruited by the researcher at work. Employees were given a verbal synopsis of the project and then given a consent form to read. The employees were asked to sign their name on the consent form if they wished to participate. If they consented to partake in the study, they were then asked to first complete Research Survey 1, which included the demographic questionnaire (see Appendix F) and the BIDR. There were two different SiriusXM radio stations that were used, one that played symphonic and traditional classical music and another that played dance/electronic music. The control condition consisted of no music.

Each participant had a total of nine trials (i.e., nine days), three with classical music played in the background during the workday, three with dance/electronic music played, and three with no music played in an alternating fashion (dance/electronic, then classical, then no music, then dance/electronic etc.). These three music conditions were administered on nine consecutive Monday workdays. The trials were only conducted on Mondays in attempt to control for the stress and workload levels of different workdays throughout the week. There were two assessment times during each of the nine days. Each person was asked to complete Research Survey 2 (which consisted of the PANAS, STAI-Y1, and job satisfaction index) when they clocked out for lunch and when they clocked out at the end of the Monday workday. Two months after the completion of the music assessments, participants were asked to fill out Research Survey 3, which asked specific questions pertaining to the participants' recollection of mood, anxiety, and job satisfaction at the time of the study.

### Data and Statistical Analysis

Four 3 x 2 mixed-design ANOVAs (one for each dependent variable: positive affect, negative affect, anxiety, and job satisfaction) were conducted to determine the main effects. For all analyses, the between-subjects factor was impression management (low impression management or high impression management) and the within-subjects factor was music (classical, dance/electronic, and no music). In addition, two sets of chi-square tests of association were conducted. The first chi-square tests were used to test the statistical significance of the association between the three music types (classical, dance/electronic, or no music) and the greatest amount of anxiety, in addition to the three music types (classical, dance/electronic, or no music) and the greatest amount of job satisfaction. The second chi-square tests of association were conducted to assess music regardless of the different types (classical or dance/electronic) and level of anxiousness (more anxious, no difference, less anxious), in addition to the association of music regardless of the different types (classical or dance/electronic) and the level of job satisfaction (more satisfied, no difference, less satisfied).

### Setting and Environment

Participants were asked to fill out the surveys at NBC in New Braunfels, Texas at their own convenience. Most of the surveys that were completed during the first assessment time during the day (i.e., during lunch) were completed in the break room. The break room consisted of one large kitchen type room with three long tables spread evenly throughout the room that sits eight people per table. Participants completed the survey on their own but possibly in the presence of other participants completing the same survey. During the second assessment time each day, participants were more likely

to fill out the survey in their own personal workstation. In order to control for a potential alternative setting confound, each participant's individual scores from the morning assessment were averaged with each participant's individual scores from the afternoon assessment. In addition, the testing environment itself was kept constant and the music was played at the same volume throughout the entire office for every trial.

#### Bias and Error

Due to the self-report nature of the surveys, there was a potential for bias and error in this study. Some of the participants may have been in too big of a hurry to answer the questions with complete attentiveness. Additionally, participants may have not answered truthfully to some of the questions due to social desirability effects or other unknown reasons. However, because every attempt was made to protect anonymity for every participant, this error should be minimal.

#### Reliability and Validity

The PANAS is an instrument that supplies a self-appraisal or estimate of "affect", both positive and negative. Words such as, enthusiastic, distressed, and irritable, are a few examples of adjectives on the PANAS. The PANAS instrument has been validated in numerous studies (Arntén et al., 2008; Huebner & Dew, 1995; Watson & Clark, 1984).

The STAI-Y1 is a frequently used measure that accurately determines one's state anxiety, or anxiety as a temporary or brief emotional experience, in which an example of a state anxiety item on the STAI-Y1 is "I feel calm" (Lesiuk, 2008; Spielberger, 1983). The low test-retest correlations ranging from .16 to .62 is congruent with the nature of the construct being measured in that a valid measure of state anxiety should display a reflection of the influence of distinctive situational factors, consequently producing lower

test-retest reliability subscale scores (Ballard & Coates, 1995; Lesiuk, 2008; Labbé et al., 2007; Spielberger, 1983).

The 5-item job satisfaction scale came from a modified version of the Brayfield-Rothe job satisfaction scale. Questions were framed to produce responses in accordance to how the participants felt about their job satisfaction that day as opposed to the original Brayfield-Rothe scale that asked how satisfied participants felt about their job in a general sense (Brayfield & Rothe, 1951). For example, “Today, I feel fairly satisfied with my job” vs. “I feel fairly satisfied with my job”. Heller and Watson (2005), who used the original version of the Brayfield-Rothe scale, found internal consistency reliabilities of  $\alpha = .86$  for the participants’ self-reports. In summation, based on previous research, most of the instruments used in this study have good reliability and validity.

### Summary

This chapter describes the research methodology, procedures, and instruments used in the current study. The current study is a 3 x 2 mixed design. Twenty-eight NBC employees participated in this study and listened to different music conditions (i.e., classical, dance/electronic, and no music) being played in the background during the workday for nine consecutive Mondays (three days for each music condition). All participants were given Research Survey 2 (which consisted of the PANAS, STAI-Y1, and job satisfaction index) twice each day, and Research Survey 3 (which asked specific questions pertaining to the participants recollection of mood, anxiety, and job satisfaction at the time of the study) two months after the study was complete. These data were analyzed using four ANOVAs and two chi-square tests of association.

## **CHAPTER IV**

### **RESULTS**

Chapter IV presents the results from this study in four sections. The first is a methodology summary, where the methodology used to complete this study will be summarized. The participants that were used in the study will be described in the second section. The third section presents the results. Finally, the fourth section will summarize chapter IV, highlighting the significant findings and provide a preface to the next chapter.

#### **Methodology Summary**

This study was conducted at NBC using a convenience sample of coworkers of the researcher. The study was a 3 x 2 mixed design experiment. The between-subject factor was impression management (high impression management or low impression management) and the within-subjects factor was music (classical, dance/electronic, and no music). Participants were recruited by the researcher at work. If they consented to partake in the study and signed a consent form, they were then asked to first complete Research Survey 1, which included the demographic questionnaire and the BIDR. There were two different SiriusXM radio stations that were used, one that played classical music and another that played dance/electronic music. The control condition consisted of no music. Each participant had a total of nine trials (i.e., nine consecutive Mondays), three with classical music played in the background during the workday, three with

dance/electronic music, and three with no music. There were two assessment times during each of the nine days. Each person was asked to complete Research Survey 2 (which consisted of the PANAS, STAI-Y1, and job satisfaction index) when they clocked out for lunch and when they clocked out at the end of the Monday workday. Two months after the conclusion of the study, participants were asked to fill out Research Survey 3, which asked specific questions pertaining to the participants' recollection of mood, anxiety, and job satisfaction at the time of the study.

The research questions for this study were (a) whether music will have a significant effect on mood while controlling for impression management, (b) whether music will have a significant effect on anxiety while controlling for impression management, and (c) whether music will have a significant effect on job satisfaction while controlling for impression management.

### Participants

Participants included 27 female employees and 1 male employee at NBC. Of the 28 participants, only one participant was excluded because they were not present for at least two of the three days for each music condition. With approval from the office administration, employees were allowed to participate if they choose to. No compensation was provided for the participants. The participants in this study had a mean age ( $\pm$  SD) of 39.86 years  $\pm$  12.66 years. The majority of participants (67.9%) were Hispanic, while the remaining 32.1% were Caucasian. Participants were classified as having high impression management or low impression management based a median split, with a median of 88.

## Results

Four 3 x 2 mixed-design ANOVAs (one for each dependent variable: positive affect, negative affect, anxiety, and job satisfaction) were conducted to determine the main effects. For all analyses, the between-subjects factor was impression management (low impression management or high impression management) and the within-subjects factor was music (classical, dance/electronic, and no music). The ANOVA results are presented in Table 1 regarding participants' self-report responses from the effects of music. No significant effects were found on mood, both positive and negative affect.

Table 1

*ANOVA Results for Music's Effect on Mood (i.e., Positive Affect and Negative Affect), Anxiety, and Job Satisfaction*

Effect	<i>Between df</i>	<i>Within df</i>	<i>F</i>	<i>p</i>	$\eta_p^2$
<b>Positive Affect</b>					
Music (M)	2	50	1.46	.24	.06
Impression Management (IM)	1	25	.007	.93	.00
M x IM	2	50	.301	.74	.01
<b>Negative Affect</b>					
M	2	50	1.99	.15	.07
IM	1	25	.004	.95	.00
M x IM	2	50	.699	.50	.03
<b>Anxiety</b>					
M	2	50	2.53	.09	.09
IM	1	25	.082	.78	.00
M x IM	2	50	.168	.85	.01
<b>Job Satisfaction</b>					
M	2	50	2.74	.07	.10
IM	1	25	.009	.92	.00
M x IM	2	50	.304	.74	.01

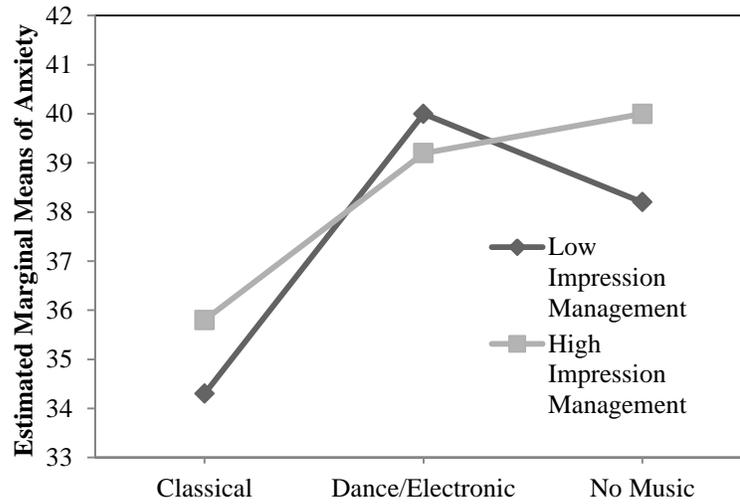


Figure 1. Mean ratings of Anxiety from the participants' self-reports.

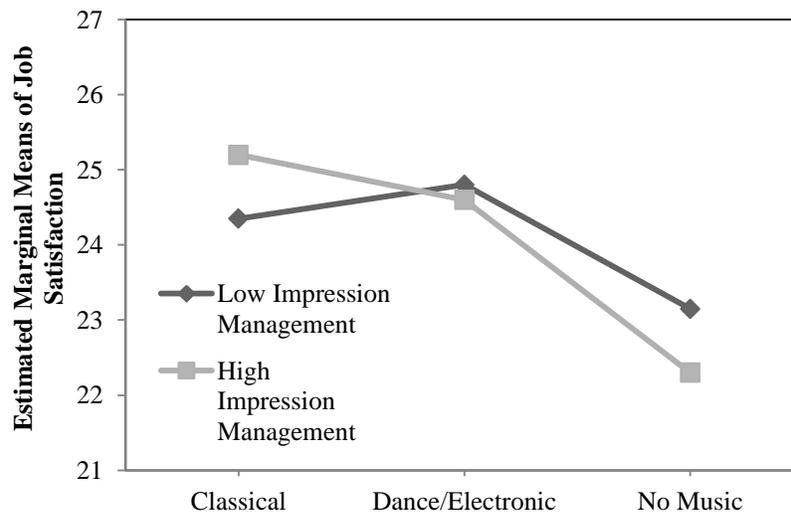


Figure 2. Mean ratings of Job Satisfaction from the participants' self-reports.

There was a near-significant ( $p = .09$ ) effect on anxiety and a near-significant ( $p = .07$ ) effect on job satisfaction. Figure 1 shows that self-reported anxiety levels were higher when dance/electronic music or no music was played in the background during the workday as opposed to when classical music was played in the background. Figure 2 shows that self-reported job satisfaction levels were lower when there was no music being played in the background as opposed to classical music or dance/electronic music.

Table 2

*Chi-Square Tests of Association Between Music Type and Greatest Anxiety and Greatest Job Satisfaction*

Variable	<i>F</i>	$\chi^2$	<i>df</i>	<i>p</i>
Greatest Anxiety		8.62	2	.013*
Classical	2			
Dance/Electronic	14			
No Music	10			
Greatest Job Satisfaction		2.39	2	.304
Classical	10			
Dance/Electronic	11			
No Music	5			

\*  $p < .05$

Two sets of chi-square tests of association were conducted. The first chi-square tests were used to determine if there was a significant difference in the frequency of responses to the following four questions:

1. Which type of music was associated with your most Positive Mood?
2. Which type of music was associated with your most Negative Mood?
3. Which type of music was associated with your greatest level of Anxiety?

4. Which type of music was associated with your greatest Job Satisfaction (how satisfied you were with your job at lunch and at the end of the day)?

Table 2 shows the chi-square test results and frequencies of the different music types with greatest anxiety and greatest job satisfaction. There was a statistically significant association with the music type and greatest anxiety in that dance/electronic music and no music produced significantly more anxiety than classical music.

The second chi-square tests were used to determine if there was a significant difference in the frequency of responses to the following four questions:

1. Do you feel that the music that was played in the background (regardless of whether it was Classical music or Dance/Electronic music) had a significant influence on your Positive mood?
2. Do you feel that the music that was played in the background (regardless of whether it was Classical music or Dance/Electronic music) had a significant influence on your Negative mood?
3. Do you feel that the music that was played in the background (regardless of whether it was Classical music or Dance/Electronic music) had a significant influence on your Anxiety?
4. Do you feel that the music that was played in the background (regardless of whether it was Classical music or Dance/Electronic music) had a significant influence on your Job Satisfaction (how satisfied you were with your job at lunch and at the end of the day)?

Table 3

*Chi-Square Tests of Association Between Music and Level of Anxiousness and Level of Job Satisfaction*

Variable	<i>F</i>	$\chi^2$	<i>df</i>	<i>p</i>
Anxiousness		3.77	2	.152
Music - more anxious	8			
Music - no difference	5			
Music - less anxious	13			
Job Satisfaction		11.39	2	.003*
Music - more satisfied	16			
Music - no difference	8			
Music - less satisfied	2			

\*  $p < .05$

Table 3 presents the results of the chi-square test and frequencies of music with levels of anxiety and levels of job satisfaction regardless of the type of music. There is a statistically significant association between music (i.e., classical or dance/electronic) and level of job satisfaction in that music, regardless of whether it was classical or dance/electronic music, produces more job satisfaction than no music at all.

#### Summary

This chapter provided the results of the current study. The three research questions for this study were (a) whether music will have a significant effect on mood while controlling for impression management, (b) whether music will have a significant effect on anxiety while controlling for impression management, and (c) whether music will have a significant effect on job satisfaction while controlling for impression management. Only two ANOVAs approached significance, music's effect on anxiety and music's effect on job satisfaction. The participants rated anxiety levels higher when dance/electronic music was being played in the background and when there was no music

being played in the background, compared to when classical music was being played. The participants rated job satisfaction levels higher when dance/electronic music was being played in the background and when classical music was being played in the background, compared to when there was no music at all being played. Significant associations in the chi-square tests were found in the association of music type and greater anxiety, and music and level of job satisfaction. The chi-square test results justify the near-significant findings in the ANOVAs for anxiety and job satisfaction. The final chapter will address the reasoning behind the lack of significant findings in the ANOVAs and provide justification of the ANOVAs that approached significance when analyzing the chi-square test results, as well as implications for future research, implications for practice, and the limitations of the current study.

## CHAPTER V

### INTERPRETATION AND RECOMMENDATIONS

In this final chapter, interpretation of the results, study limitations, and implications for future research will be discussed. The primary objective of this study was to assess the effects of music on mood, anxiety, and job satisfaction in an occupational setting. These aims were reached by examining participants' self-report scores on three dependent variable measures (PANAS, STAI-Y1, and job satisfaction scale). Results showed that anxiety and job satisfaction only approached significance in the primary analysis, but then reached significance in the chi-square tests of association.

#### Summary of Results

The present study was directed by three hypotheses. The first hypothesis concentrated on whether music affects mood, both positive affect and negative affect. Analyses associated with the first hypothesis revealed that the different types of music did not significantly alter an individual's mood. The second hypothesis assessed whether music affects anxiety. These results indicated that music's influence on an individual's anxiety approached a statistically significant level. The participants rated anxiety levels higher when dance/electronic music was being played in the background and when there was no music being played in the background, but not when classical music was being played. The third and final hypothesis focused on music's effects on job satisfaction. Analyses for this hypothesis revealed another near-significant influence. The participants

rated job satisfaction levels higher when dance/electronic music was being played in the background and when classical music was being played in the background, but not when there was no music at all being played. Further analyses were conducted to look at the associations of the different music types and anxiety and job satisfaction. Results found that there was an association with the music type and greatest anxiety in that dance/electronic music and no music produced significantly more anxiety than classical music. There was also a statistically significant association between music (i.e., classical or dance/electronic) and level of job satisfaction in that music, regardless of whether it was classical or dance/electronic music, produced more job satisfaction than no music at all.

#### Discussion of Results

In this study, there were no significant effects of music on mood. There are a few reasons that attributed to this finding. First of all, visual analysis of the participants' individual data reveal that participants tended to rate both the positive and negative affect components of the PANAS relatively low. The reason for this is unknown. Secondly, past research has found similar results. The key dilemma in the lack of significant findings is that background music sound systems are nonflexible and are not able to easily assist the preferences of some individuals, either for an alternate type of music than is offered by the system, or no music at all (Oldham et al., 1995). Research has clearly stated that personally selected music is an essential element in music's effectiveness and even preferred genres would not reduce anxiety as efficiently as specific choices of music (Lesiuk, 2008). Moreover, contradictory findings have been discovered that not only has self-selected music been seen to significantly reduce negative emotional states when

compared to sitting in silence or listening to heavy metal music, but so has classical music as well (Labbé et al., 2007). Regardless of the differing findings in past research, compensating for these barriers was out of the realms of this study so the researcher tried to choose the most general form of soothing music and the most general form of upbeat music. From a theoretical sense, faster tempos arouse or invigorate, while slower tempos enhance relaxation tactics by producing slower heart and respiratory rates (Halstead & Roscoe, 2002; West, 1994).

The fact that anxiety levels were the lowest when classical music was being played in the background for participants to listen to makes sense. Past research has found classical music to decrease tension, while having little effect on other feelings (Kemper & Danhauer, 2005). Similarly, classical music has been seen as an effective intervention in reducing sleeping problems, which sometimes develop as a result of high levels of anxiety (Harmat et al., 2008).

Shih et al. (2009) found that background music affects people's behavior at work. Regardless of whether or not music was played in the background during work, before the work shift, or no background music played at all, worker performance was affected on different levels. Every person responds differently to different types of music and the lack of significant results may have been because the individual preferences of the participants in this sample may have varied too much. However, it is clear that music influences everyone on some level. This may be why job satisfaction was greatest when music was played (i.e., classical or dance/electronic) compared to no music at all.

#### Implications for Future Research

There are contradictory findings in previous research as to whether music does in

fact have significant effects on mood, anxiety, and job satisfaction. Since two ANOVAs only approached significance in the current study, music's effect on anxiety and music's effect on job satisfaction, future researcher should test these findings on a larger scale (i.e., a larger sample size and variety of occupational work settings). Future research should also look into whether participant race/ethnicity has any effect on the differing types of music people listen to and thus, effecting how race/ethnicity might affect the way an individual responds to music (i.e., positive and negative mood, anxiety levels, and levels of job satisfaction). Unfortunately, the small sample size that was used by the current researcher could not test for these kinds of race/ethnicity based differences. Moreover, future research should also include an equal number of men and women. Expanding assessments towards more dynamic workplaces, where women are not the majority, might make the results more generalizable. Finally, as stated before, future research needs to examine the long-term effects of music on workers especially when the participants get to choose their own music.

#### Implications for Practice and Recommendations

It seems as though the right type of music, or more simply stated, just music in general when compared to silence, could be a practical, cost effective, and easy intervention that can improve mood and reduce anxiety levels, as well increase job satisfaction. Past research, in addition to the current study, suggest that music can enhance job satisfaction, whether it is a form of distraction or a means of anxiety reduction from the sometimes overwhelming and chaotic demands or hassles of everyday workloads. Perhaps it would benefit employers to make sure music, regardless of the type, is always playing in the background throughout occupational work settings. Past

research suggest that music can increase productivity, reduce burnout, improve quality of work, and ultimately increase job satisfaction. The current findings add to the readily available notion that classical music reduces anxiety levels, suggesting that if employers had to select one genre of music to benefit their employees, the most logical choice would be that of classical music.

### Limitations

There were a few limitations with this research. A first limitation of this study was the small sample size that was used. Only 28 participants completed the study. A second limitation of this study is that a self-report questionnaire was used to measure levels of mood, anxiety, and job satisfaction. However, the researchers did try to control for one of the confines of using a self-report measure, which is the social desirability effect, by having the participants fill out the impression management scale. A third limitation is that the researcher did not measure any covariates or extraneous variables (e.g., predisposed personal characteristics, family or personal conflicts at home, illness, injury) that may have also influenced mood, anxiety, and job satisfaction. A fourth limitation of this study was that 27 of the 28 participants were female. This is partly due to the stereotypically gender ration in a medical care office setting where females tend to be the individuals who fill the clerical jobs as well as the nursing staff. However, Arntén et al. (2008) investigated the association between personality, individuals' affective state, mood, stress, and coping behavior, and found that females tended to express higher levels in each of these variables but especially higher levels of anxiety. Perhaps having a large majority of females in the current study was not necessarily a limitation. A fifth and final limitation of this study was the decision to use a convenience sample of employees at

NBC, which is where the researcher works. The researcher wanted to use an occupational setting in hopes that the findings would be generalizable outside of the most common research sample (i.e., college freshman). However, this still limits the ability to generalize the findings outside of this particular work setting. Employees who do not work at NBC may yield different characteristics and, therefore, are not denoted by this sample.

### Summary and Conclusion

An individual's mood and levels of anxiety, as well as levels of job satisfaction can fluctuate throughout the day, every day, and are influenced by a number of different factors. Music has been a part of life since prehistoric times and can be described as a universal language (Halstead & Roscoe, 2002; Kemper & Danhauer, 2005). A number of previous studies reveal the beneficial effects that music can have on multiple facets of an individual's everyday life (Emery, Hsiao, Hill, & Frid, 2003; Halstead & Roscoe, 2002; Harmat, Takacs, & Bodizs, 2008; Kallinen & Ravaja, 2004; Kemper & Danhauer, 2005; Labbé, Schmidt, Babin, & Pharr, 2007; Lesiuk, 2008; Nittono, Tsuda, Akai, & Nakajima, 2000; Oldham et al., 1995; Phipps, Carroll, & Tsiantoulas, 2010; Szabo, Ainsworth, & Danks, 2005; Taylor, 1991; West, 1994; Wolfe, 1995). There are contradictory findings in previous research as to whether music does in fact have significant effects on mood, anxiety, and job satisfaction. This study was unique in that it looked at positive affect, negative affect, and anxiety, in addition to job satisfaction, in a real world setting with real world stressors and influences as opposed to a psychology lab setting that tries to inflict artificial effects.

This study assessed the effects of music on a person's mood, anxiety, and job satisfaction while controlling for impression management. Two ANOVAs approached

significance, music's effect on anxiety and music's effect on job satisfaction. Significant associations in the chi-square tests were found in the association of music type and greater anxiety, and music and level of job satisfaction. This study showed that music, regardless of the type, can improve job satisfaction and that greater anxiety occurs when, no music or dance/electronic music, is played in the background. This research could disclose to employers that playing music in the background can enhance job satisfaction and at the same time reveal the notion that playing the wrong music or no music at all can intensify anxiety levels.



\_\_\_\_\_ I have taken sick-leave from work or school even though I wasn't really sick.

\_\_\_\_\_ I have never damaged a library book or store merchandise without reporting it.

\_\_\_\_\_ I have some pretty awful habits.

\_\_\_\_\_ I don't gossip about other people's business.

## APPENDIX B

### PANAS QUESTIONNAIRE

This scale consists of 20 words that describe different feelings and emotions. Read each word and then mark the appropriate answer in the space next to that word. Indicate to what extent you feel this way right now at the present moment. Use the following scale to record your answers.

1	2	3	4	5
very slightly or not at all	a little	moderately	quite a bit	extremely
_____ interested	_____ guilty	_____ irritable	_____ determined	
_____ distressed	_____ scared	_____ alert	_____ attentive	
_____ excited	_____ hostile	_____ ashamed	_____ jittery	
_____ upset	_____ enthusiastic	_____ inspired	_____ active	
_____ strong	_____ proud	_____ nervous	_____ afraid	

## APPENDIX C

### STAI-Y1 QUESTIONNAIRE

A number of statements which people have used to describe themselves are given below. Read each statement and then circle the appropriate number to the right of the statement to indicate how you feel at this moment. There are no right or wrong answers. Do not spend too much time on any one statement but give the answer which seems to describe your present feelings best.

*NOT AT ALL*  
*SOMEWHAT*  
*MODERATELY SO*  
*VERY MUCH SO*

- |   |   |   |   |   |
|---|---|---|---|---|
| 1. I feel calm.....                                       | 1 | 2 | 3 | 4 |
| 2. I feel secure.....                                     | 1 | 2 | 3 | 4 |
| 3. I am tense.....  | 1 | 2 | 3 | 4 |
| 4. I feel strained.....                                   | 1 | 2 | 3 | 4 |
| 5. I feel at ease.....                                    | 1 | 2 | 3 | 4 |
| 6. I feel upset.....                                      | 1 | 2 | 3 | 4 |
| 7. I am presently worrying over possible misfortunes..... | 1 | 2 | 3 | 4 |
| 8. I feel satisfied.....                                  | 1 | 2 | 3 | 4 |
| 9. I feel frightened.....                                 | 1 | 2 | 3 | 4 |
| 10. I feel comfortable.....                               | 1 | 2 | 3 | 4 |
| 11. I feel self-confident.....                            | 1 | 2 | 3 | 4 |
| 12. I feel nervous.....                                   | 1 | 2 | 3 | 4 |
| 13. I am jittery.....                                     | 1 | 2 | 3 | 4 |
| 14. I feel indecisive .....                               | 1 | 2 | 3 | 4 |
| 15. I am relaxed .....                                    | 1 | 2 | 3 | 4 |
| 16. I feel content.....                                   | 1 | 2 | 3 | 4 |
| 17. I am worried.....                                     | 1 | 2 | 3 | 4 |

- |                          |          |          |          |          |
|--------------------------|----------|----------|----------|----------|
| 18. I feel confused..... | <b>1</b> | <b>2</b> | <b>3</b> | <b>4</b> |
| 19. I feel steady.....   | <b>1</b> | <b>2</b> | <b>3</b> | <b>4</b> |
| 20. I feel pleasant..... | <b>1</b> | <b>2</b> | <b>3</b> | <b>4</b> |

## APPENDIX D

### JOB SATISFACTION QUESTIONNAIRE

Indicate your agreement with the following items. Use the following scale to record your answers.

1	2	3	4	5	6	7
strongly disagree	moderately disagree	slightly disagree	neutral	slightly agree	moderately agree	strongly agree

\_\_\_\_\_ Today, I feel fairly satisfied with my job.

\_\_\_\_\_ Today, I am enthusiastic about my work.

\_\_\_\_\_ Today, work seems like it will never end.

\_\_\_\_\_ Today, I find real enjoyment in my work.

\_\_\_\_\_ Today, I consider my job rather unpleasant.

## APPENDIX E

### RESEARCH SURVEY 3

#### Part 1

In the blank below, record your research ID (last 4 digits of your social security number), which will be used to match all your data, while ensuring that your data will be anonymous.

---

#### Part 2

Take a moment to think back at how you felt during the nine-week music intervention you participated in. Please circle the appropriate response to the questions below in a honest and sincere manner.

1. Do you feel that the music that was played in the background (regardless of whether it was Classical music or Dance/Electronic music) had a significant influence on your **Positive mood**?

Music made me feel **more positive** than silence

Music was no different than silence on mood

Music made me feel **less positive** than silence

2. Do you feel that the music that was played in the background (regardless of whether it was Classical music or Dance/Electronic music) had a significant influence on your **Negative mood**?

Music made me feel **more negative** than silence

Music was no different than silence on mood

Music made me feel **less negative** than silence

3. Do you feel that the music that was played in the background (regardless of whether it was Classical music or Dance/Electronic music) had a significant influence on your **Anxiety**?

Music made me feel **more anxious** than silence

Music was no different than silence on anxiety

Music made me feel **less anxious** than silence

4. Do you feel that the music that was played in the background (regardless of whether it was Classical music or Dance/Electronic music) had a significant influence on your **Job Satisfaction** (how satisfied you were with your job at lunch and at the end of the day)?

Music made me feel **more satisfied** than silence

Music was no different than silence on satisfaction

Music made me feel **less satisfied** than silence

Please circle only **one** of the three choices, Classical music, Dance/Electronic music, or No music, for the following four questions.

5. Which type of music was associated with your most **Positive Mood**?

Classical music

Dance/Electronic music

No music

6. Which type of music was associated with your most **Negative Mood**?

Classical music

Dance/Electronic music

No music

7. Which type of music was associated with your greatest level of **Anxiety**?

Classical music

Dance/Electronic music

No music

8. Which type of music was associated with your greatest **Job Satisfaction** (how satisfied you were with your job at lunch and at the end of the day)?

Classical music

Dance/Electronic music

No music

## APPENDIX F

### DEMOGRAPHICS QUESTIONNAIRE

#### Part 1

In the blank below, record your research ID (last 4 digits of your social security number), which will be used to match all your data, while ensuring that your data will be anonymous.

\_\_\_\_\_

#### Part 2

Age: \_\_\_\_\_

Gender:      \_\_\_ Male      \_\_\_ Female

Employment:  \_\_\_ Full time   \_\_\_ Part time

Marital status:  \_\_\_ Single   \_\_\_ Married   \_\_\_ Separated   \_\_\_ Divorced   \_\_\_ Widowed

Highest level of education that you have completed:

- |                           |                         |
|---------------------------|-------------------------|
| ___ Less than high school | ___ Bachelor's degree   |
| ___ High school / GED     | ___ Master's degree     |
| ___ Some college          | ___ Doctoral degree     |
| ___ Associates degree     | ___ Professional degree |

Total household income, including all earners in your household:

- |                        |                         |
|------------------------|-------------------------|
| ___ Less than \$20,000 | ___ \$60,000-\$79,999   |
| ___ \$20,000-\$39,999  | ___ \$80,000-\$100,000  |
| ___ \$40,000-\$59,999  | ___ More than \$100,000 |

Ethnicity / race:

African American

Caucasian

Asian American

Hispanic or Latino

European American

Pacific Islander

Native American

Other

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## **VITA**

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