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Does Participating in a Music Program in High School Lead to Academic Achievement in College?

Vanessa Lynn Almaraz

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DOES PARTICIPATING IN A MUSIC PROGRAM IN HIGH SCHOOL LEAD TO
ACADEMIC ACHIEVEMENT IN COLLEGE?

A Thesis

by

VANESSA LYNN ALMARAZ

Submitted to Texas A&M International University
in partial fulfillment of the requirements
for the degree of

MASTER OF ARTS

May 2014

Major Subject: Sociology

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Approved as to style and content by:

Chair of Committee,	John C. Kilburn
Committee Members,	Marcus Antonius Ynalvez
	Peter Haruna
Head of Department,	Claudia San Miguel

May 2014

Major Subject: Sociology

DEDICATION

I would like to dedicate my thesis to my friends and family who have always encouraged me to never give up and always strive for the best.

ABSTRACT

Does Participating in a Music Program in High School Lead to Academic
Achievement College? (May 2014)

Vanessa Lynn Almaraz, B.A., Texas A&M International University

Chair of Committee: Dr. John C. Kilburn

Music education has and continues to become a constant issue in the cultural aspect and views of the educational system. How does music play a factor in our educational system? This thesis investigates the influence of how music plays in an individual's educational development. Research has shown that while students in high school who participated in a music program, had significant increases in how they achieved academically in school, with this, students may also have the chance of excelling in their academics while attending a college or university. In this study, I measured the academic excellence amongst several social demographic factors including those students who were involved in a musical performing arts program in high school compared to those who were not. What was learned through this research was that there is a strong significance in the male population of musicians in their college academics. Through showing the importance of music education, this research highlights the significance of music participation and evolution of social skills and academics through the action of music.

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I would like to thank my friends and my family for always being there and encouraging me to continue when I wanted to quit. Your faith in me proved to me much more than I ever thought I could be and do.

TABLE OF CONTENTS

	Page
ABSTRACT	iv
ACKNOWLEDGMENTS	v
TABLE OF CONTENTS.....	vi
LIST OF TABLES	viii
LIST OF FIGURES	x
INTRODUCTION	1
Objective of Study	1
Significance of Study	3
LITERATURE REVIEW	7
Music and Endorphins.....	7
Music and Emotions/Moods	10
METHODS	14
Study Location	15
Participants.....	16
Theoretical Model Linking Academic Performance and Early Musical Engagement and the Moderating Role of Gender.....	17
DATA GATHERING TECHNIQUES	24
MEASUREMENT	25
Sample Design	25

ANALYTICAL STRATEGIES.....	26
Dependent and Independent Variables	27
RESULTS	28
DISCUSSION.....	40
CONCLUSION.....	43
REFERENCES	46
APPENDICES	49
VITA.....	54

LIST OF TABLES

	Page
Table 1: Basic Statistics for Variables of the Study	29
Table 2: Ordinal Logistic Regression - Main Effects Model (M1)	30
Table 3: Ordinal Logistic Regression – Interaction Effects (M2)	31
Table 4: Ordinal Logistic Regression – Main Effects Model for Females (M3a)	32
Table 5: Ordinal Logistic Regression – Main Effects Model for Females (M3b).....	33
Table 6: What is your classification?.....	50
Table 7: Are you male or female?.....	50
Table 8: What is your age?	50
Table 9: What high school did you attend?	50
Table 10: In what city or town did you attend high school?.....	51
Table 11: Do you play a musical instrument (instrumental and vocal)	51
Table 12: Did you participate in a music program while in high school?	51
Table 13: If so, which ensemble did you participate in?	51
Table 14: How long were you in the ensemble?.....	52
Table 15: What is your major?.....	52
Table 16: What is your overall TAMIU GPA?.....	52

Table 17: Which ensemble had the higher GPA?	52
Table 18: UISD vs. LISD. Who had the higher GPA?	52
Table 19: Laredo High Schools vs. Non-Laredo High Schools.....	53
Table 20: Musical vs. Non-Musical GPAs	53

LIST OF FIGURES

	Page
Figure 1: Theoretical Model	1

INTRODUCTION

“Music education opens doors that help children pass from school into the world around them—a world of work, culture, intellectual activity, and human involvement. The future of our nation depends on providing our children with a complete education that includes music” – President Gerald Ford.

Recent changes in budgetary policies, in reference to high school programs, have caused many schools to cancel music programs without any former warning. When issues as this arise, school districts are forced to make serious decisions as to what school programs these districts need to keep and which ones to remove. Because music is mostly seen as a fun and playful program, many administrators do not see the important educational aspects music has on student lives.

In this study, I investigate the impact of music participation from high school on college grades. I offer the following questions: Does music participation help you get better grades? Do college students with organized music supervisions in high school earn a higher grade point averages than students who never were in a high school musical ensemble? With these questions answered, this will help with the continuous fight to continue and maintain our music school programs in the high school level. With this, we can show the importance of how music can eventually assist in the progression of the student in learning early musical skills, social skills, discipline and team work as they continue their collegiate education.

Objective of Study

My objective for this research is that I will be studying the effects of students who participated in a music program in high school and compare the academic achievement to those were not. Previous research has shown that “students who listened to Mozart before taking a test

have performed better on those tests of spatial abilities after listening to music composed by Amadeus Mozart” (Thompson, Forde, Schellenberg, and Husain 2001:248). This research is based on the results that were presented by physicist Gordon Shaw in 1993, called the Mozart Effect through spatial temporal reasoning skills. The experiment drew an enormous response when it was published in the scientific journal Nature, due to the fact the students involved had various amounts of changes within their I.Q.’s after listening to a piece of a classical work.

This research is important because “nearly 40 percent of high school students enroll in music programs and participate in high school music programs each year” (Gorman 2014). Due to the cost of operating these programs, music programs are subject to being offered less often in schools. At an alarming rate, music programs in our educational institutions are rapidly being cut to save money for the school districts. This may be due to that districts without knowledge, cut the arts in the schools but do not understand that there could be other issues within the schools rather than the art programs. Long term effects such as report cards and transcripts should be examined before cuts are made. But what these school districts do not realize is that the students do not need to be interested in a career in music, but the overall participation will enhance their learning process. Unfortunately, many students are now losing the aspect of having music education in their high school curriculum.

One particular movement to counter these actions is the development of the VH1 Save the Music Foundation. The Save the Music Foundation is a nonprofit organization whose focus is to keep music programs in public schools and to show how music is beneficial to one’s life. This program through the donations of patrons such as ourselves, provide grants that allow such music programs to survive and provide instruments to those schools to help the program thrive.

Programs such as the VH1 Save The Music Foundation, continue to provide how important music is and how it enriches people's lives everyday.

Significance of Study

The significance of this study will show what variables such as demographics, years of participation, and participation, are most significant to the topic of music education and academic achievement. The truth of the matter is that music plays an important factor for an individual's success in life. Music is an important part of the educational system, that every school should have these programs available to their students and should be part of the core curriculum.

Why would music education be upfront compared to the basics such as mathematics, reading and writing? Music enhances intelligence, learning and the individualistic IQ. Music is also known to improve the memory, performance and attention of an individual. At an alarming rate, music programs in our educational institutions are rapidly being cut to save money for the school districts. This is due to that the districts are first to cut the arts in the schools but yet, doing not try to see what the issue in their schools is really. Long term effects such as report cards and transcripts should be examined before cuts are made. But what these school districts do not realize is that the students do not need to be interested in a career in music, but the overall participation will enhance their learning process. Unfortunately, many students are now losing the aspect of having music education in their high school curriculum. The significance of this study will show what variables such as demographics, years of participation, and participation, are most significant to the topic of music education and academic achievement. The truth of the matter is that music plays an important factor for an individual's success in life. Music is an

important part of the educational system, that every school should have these programs available to their students and should be part of the core curriculum.

How does music relate to other subjects in school? Does music help in the learning of those subjects? Music has the power to enhance forms of education such as reading and mathematics. Musical training beginning in the early years of life can help the brain develop in areas that are associated with reading, languages and reasoning. The development of the brain continues to grow through life to which enhances the development of education through music. Previously mentioned, music not only affects the right side of the brain known to be the artistic side, but it also affects the left as well. This is indicated by the musical training that physically progresses toward the left side of the brain which is known to be immersed with the learning of other languages, reading and mathematics.

In reading, we start off as kindergarteners learning phonics and practicing our word diction, the same goes for music. When students are learning the lyrics to a song, they are repeatedly going over the words and learning to read them at the same time. With the use of participation of music, this helps the student with memory training, recalling skills and having a better concentration with learning new techniques. The difference in pitch, whether high or low, helps the student detect the differences by auditory modes. "Practice in reading music notation, makes the reading of linguistic, phonological, and easier task" (Butzlaff 2000:167). This will show a great finding on how music portrays a considerable factor on how academic achievement is gained. Do rhythms, lyrics or beats collaborate with the mind and brain? Music, besides the enjoyment of dancing and singing, can have beneficial elements to our state of mind and education of learning. Schools already enforce the reading of William Shakespeare; why not let

the students have the opportunity to listen to musical classics such as Wolfgang Amadeus Mozart or Johann Sebastian Bach?

How does music play a factor into the learning capability of mathematics? “If music enhances the spatial-temporal reasoning, then music may also enhance understanding of those aspects of math that involve spatial-temporal reasoning such as geometry and proportional reasoning” (Vaughn 2000:149). There is also a link between music and spatial reasoning in part to the ability to visualize elements that are critical for thinking processes that involves solving mathematics problems and solutions. The connection of music and math is very important because this connection helps students process such items as fractions. Fractions are projected similar to reading quarter (1 beat), half (2 beats) and whole (4 beats) notes on a musical staff. In order to understand the division and to be able to read the counts, you must be able to divide. Once you understand how to read the notes, understanding fractions and division are the same. Participants of music learn to process and think creatively, with this edge, the individual can solve problems by various clarifications, and refusing other procedures that can be outdated and alter and response. If students are musically successful, they will acquire skills that will be beneficial for success in life as adults and will have skills that are greatly appreciated through employers relating to business, social services organizations and education.

These variables will show if there is a dramatic difference is students who participated in music compared to those who did not. Most people would consider “students who are more musically inclined and participate in band, orchestra or choir to be more aesthetically sensitive to music” (Anderson 1975:79). With this research, we will find results that help change the way we think of music and how it can help with academics. Do students who participated in music in high school have higher GPAs to those students who were non-musical? “Success in college can

be more accurately predicted by levels of individual achievements in student activities (drama, debate, music etc.)” (Biernat and Klesse 1989:51). In return, these questions will allow me to create a cross-tabulation analysis and an ordinal regression to find the results needed to answer the research question of “Does Participating in a Music Program in High School Lead to Academic Achievement in College?”

LITERATURE REVIEW

How does music develop the change of moods? One concept of a mood reaction is the use of endorphins that are created in our body and brain. Are there endorphins that are released into the brain which triggers out emotions and therefore our behavior? This happens when we workout, so why wouldn't it do the same for listening to music?

Music and Endorphins

Endorphins are created when our blood stream produces neurons that cling to the pituitary gland and are exposed through the spinal cord. The nerves that are exposed are then modified by neurotransmitters. Endorphins can create sensations of happiness, relaxation and pain. This then results in "morphine-like substance originating from within the body" (Goldstein and Lowery 1975:927). The endorphins in our blood stream are stimulated while listening to music, to which this in turn causes our moods to change. The binaural beats or binaural tones are auditory processing artifacts, or apparent sounds, caused by specific physical stimuli. The effect on the brainwaves depends on the difference in frequencies of each tone.

Depending on the person there will be a variety of selections regarding to how a person feels after listening to music. To do this research will be a great finding on how music portrays a considerable factor on how people live their lives. This research will also be a basis to conducting the same research global. Not only will music begin to play a major role in each other lives, perhaps in the future music can be measured to help patients improved their overall health.

Ever since the 1940's, music has been used to help war veterans and can help ease their pain with relaxation. "The importance and essentiality of music for use with patients is recognized through a program of music activities that stresses patient participation on the basis

of recreation and entertainment, as well and music activities applied in close coordination with a general medical program” (Green 1947:22). Music besides the enjoyment of dancing and singing, can have beneficial elements to our state of mind and behavior. However, “not all people are the same and what they listen to make them happy, may be the different for the other person” (Robertson-DeCarbo 1974:35).

Music awakes a sensory motion in your soul that you can become sad, happy, or angry by listening to music. As an adult, I have noticed that when I listen to certain types of music, my mood changes, therefore so does my behavior. Previous research has pointed to “that activity in paralimbic brain region correlated with unpleasant or mildly pleasant emotions elicited by varying amounts of musical dissonance” (Blood and Zatorre 2001:118). What does this mean? Humans blood flow changes when listening to different genres of music, which can then determine emotions. With these cognitive skills, the nervous system will control our emotions by using our brain.

As music plays an important factor in how our endorphins accumulate stimuli, there are different areas of the stimuli that also affect the brain. Music and the brain already involve how music is perceived and how well a person can perform. “Without conscious effort, the human brain is able to translate spectral and temporal patterns of acoustic energy into music's basic perceptual elements: melody, harmony, and rhythm. Music, like language, is an acoustically based form of communication with a set of rules for combining a limited number of sounds in an infinite number of ways. Universal among human cultures, music binds us in a collective identity as members of nations, religions, and other groups” (Tramo 2001:54). There are 5 main components of the brain that correlate with music. While scientifically the listening and participation of music is located on the right side of the brain, these cortexes are viewed as

important factors that help us achieve the sound of music. “The finding that there is a right brain region for notes and musical passages that corresponds in location to a left brain region for letters and words illustrates how a neural mechanism may be present in each of the two brain hemispheres becomes special adapted for analogous purposes but with different information contexts” (Parsons 1998). One of the first cortexes of processing music, are the sounds that occur in the brain developed by the auditory cortex. This is what analyzes the sound that we hear. The second is called the prefrontal cortex. This cortex revolves around the acceptance or negative feedback from the sound of the music. It is what we are expecting to hear with the expectation to be satisfied than with a dissonance that would present dissatisfaction. The third cortex is called the motor cortex and this revolves around the person either tapping their foot, dancing or playing an instrument. The next cortex is the visual cortex and occurs when we are reading music or viewing someone’s dancing or movements with the music. The last cortex is called the sensory cortex. With this cortex, the movements and sound are interpreted and are determined if satisfactory or resulting in a negative feedback. These pathways of sound are what bring music to the different parts of the brain that can feel and perform.

In contrast to how our brain functions, men are said to have larger sizes than females because of the body structure. Also one main cortex that helps us to determine the sounds and movement of music is the major difference there is in the prefrontal cortex between genders. Females have a “higher level of activity in the prefrontal cortex, an area that’s sometimes called “the brain’s CEO” because it governs planning, organization, impulse control, and learning from mistakes” (Cool 2013). Because of this form of learning, how to decipher the music in the prefrontal cortex provides insight regarding on how the brain perceives the music and how it manages the higher level of activity.

Music releases stimuli through individuals separately which provides a more reasonable amount of response. Music affects different levels of serotonin which has positive influences on the brain cells which then can control moods and emotions, performance and educational learning. When listening to music, the sounds stimulate what is known as the hippocampus, which handles the long term storage in the brain. By listening to music, this can help you maintain memories by using the hippocampus. Instrumental music practice can also help with coordination, concentration and memory that can also help with an individual's eyesight and hearing. "The process of learning to play an instrument refines the development of the brain and the entire neurological system" (Mueller 1984).

Music and Emotions/Moods

Features that contribute to our change of emotions while listening to music contain melodies, the mode, rhythm and tempo of the song. The melody of the song can be an array of notes that can ultimately present joy, sadness, anger, or tranquility. The mode determines what key the song is played in and can also determine if it is a happy song usually played in a Major key (Kokomo – the Beach Boys) or sad song which is normally played in a Minor key (Set Fire to the Rain – Adele), for example. The rhythm is a recurring arrangement of beats that if played rough, can be displayed as amusement or joy. Otherwise beats played softer can present tranquility or sadness. The tempo of a song is the speed that determines the pace of the song. When there are songs with a fast tempo, this is more associated with happiness or anger while a slow tempo is regarded as sadness or serenity. "Good music understands that music has a way of bypassing the walls of the intellect and targeting the emotions, often demanding some type of response" (Anastasi 2005:311).

Emotions may also be portrayed by the location as to where you are hearing the song and to the listener themselves. “Music has been shown to decrease anxiety, stress, and tension in a variety of populations” (Johnson 2003:27). Relaxing music induces sleep and reduces the level of stress that can accumulate. There are different social factors that contribute to any mood changing and the same goes for music. Location however can play a major part in our emotional change especially if the location is at a wedding, funeral, graduation, etc... The listener refers to the actual individual and the social reactions that result from the listening of music. The listener is affected by the change of personality and the motivation to listen to the song that is being played. “In general, listeners tended to like music associated with stronger feelings and happy feelings, and to dislike music that evoked sad feelings” (Ladinig and Schellenberg 2012:146). People all recognize events differently based upon their individual characteristics. In response, our emotions are stimulated by listening to various genres of music that are eventually affected by factors such as personality. Also, previous exposure to music, such as high school participation, can affect later behavioral choices in life such as schoolwork, and social interactions.

But how does music play a part to students’ everyday lives such as their education? In previous glances I have noticed that when people listen to classical and romantic music such as music from Mozart, Bach and Beethoven, the people seem more at ease and very calm (Lewis and Schmidt 1991:315). Unless of course they may be listening to Beethoven 5th Symphony, then you may want to be a part of the song and sing along. But I have also noticed with myself and others when listening to a ballad, our emotions tend to become sad. Do these songs bring back memories? Every other music tends to bring us joy and happiness such as Pop, Hard Rock,

and Heavy Metal, Hip Hop or even 80's music. "It may be categorically stated that music can markedly affect the bodily process" (Dainow 1977:211).

"Music represents an enhanced performance caused by manipulation of arousal and mood" (Thompson, Schellenberg, and Husain 2001:248). This would then place emphasis on how someone does cognitively. "Music has long been considered an efficient and effective means for triggering moods and communicating nonverbally" (Bruner 1990:94). Why would this be so? The pitch, tempo, listening duration all play a part in how our stimuli is producing our emotions. This is why it is important to learn why and how our moods and behavior can be stimulated by music. How would this play into musicians and their education? Is there any implication of achievement amongst those who are musically inclined to those who are not? "In addition to the values of artistic accomplishment and understanding, carefully planned experiences in the arts result in unique and positive influences on critical aspects of both intellectual and social development." (Morrison 1994:33).

In regards to the Mozart Effect, "Music affects performance in both sensory and motor tasks" (Peretti and Swenson 1974:278). While he conducted his research, for each encounter he separated the students into 3 groups. He would first have these groups engage in an activity or spatial test, according to age, with silence in the background. In the experiment, Gordon Shaw conducted a fold and cut project and a standardized IQ test for 3 groups of college students. He had the first group listen to Sonata for Two Pianos in D Major by Mozart to listen to while working on their project. The second group was given a relaxation tape to listen to and the third group had silence. What Shaw discovered was that the first group who listened to Mozart was 69% better in their creativity with the cut and fold project than the other groups and when taking the standardized IQ test, scored 9 points higher than the other 2 groups.

Rather than perhaps being in a meeting and observing, these students are actually participating and are being taught how to communicate through music and being taught how to be leaders themselves. With these social factors, this shows that as high school students, the musical participation gave the students a yearning for learning which continues as they progressed in college. Once studying music, this will encourage the individual to be more self-disciplined which will then lead to a more stable working environment as an adult and more intellectual traits pursuing future education. With all this, music deserves strong support from our educational system and government, so our future students can become strong adults with the learning of the arts and core academics such as sciences, mathematics, reading and writing.

METHODS

This thesis investigates variables that will help determine the end result if students who were musically inclined and participated in a music program in high school do actually excel in their academics in college. Does having a musical background have any insight of stimuli that may arise to a student achieving academic excellence in college? “Graduates who considered their band programs success, cited social factors, character development developing patience and leadership” (Miller et. al 1985:I-5). In regard to social factors, studying and participating in music also enhances the individual’s teamwork skills and discipline. For there to be proper order in an ensemble, all participants need to be able to play the right notes or sing the correct tones. When this goal is reached, the harmonies create an environment that proves that a collected group can work together. While studying music, the student incorporates communication skills that will be necessary for college and the workplace.

The total number of respondents that responded to the questionnaire was 545 students that ranged from freshman to graduate students. The questionnaire consisted of 11 questions that included: “What is your classification”, which will see if there is a difference in students coming right out of high school and if they do better in school to those who have been out for a few years. “Did you participate in a music program while in high school”, this will help figure out the basic part of the research if they were in music. “If so, which ensemble did you participate in”, this will help determine if singing in a choir compared to playing an instrument produces a different level of education excellence. “What is your major,” which will help set apart the music and non-music majors, and “What is your GPA,” which will in the end help determine the final result.

There are several ways to conduct a research, but for this purpose, I will be conducting a survey based on results that will be collected from surveys collected from the student population of Texas A&M International University in Laredo, Texas. The survey questions will be based on questions that related to the academic excellence of college students who participated in a music program while in high school. Besides music making us happier, it can also calm or relax people as well (Antrim 1944:409). Also, when listening to national anthems, why are we so happy while listening to them? Are we proud to be in the country we are in? Does the anthem bring memories? Or is the composition composed so intriguing you are in love with song (Cerulo 1989:76)?

Could music produce neurological stimuli that affect the way that humans learn?
 “College students' scores on spatial subtests of the Stanford-Binet IQ battery increased an equivalent of 8-9 IQ points for 10 to 15 minutes after listening to about ten minutes of the first movement (Allegro con spirito) of Mozart's Piano Sonata for Two Pianos in D major, K. 448” (Hetland 2000:148).

What will be looked into will be the overall status of musically inclined students to non-musical and is there a difference academically. Performance matters in cognitive memory which has been researched to supplying the musician with performing non-musical tasks enhanced. The verbal and visual memory of the musician would be improve overtime and will eventually provide a learning capability unlike the non-musician.

Study Location

The location that was chosen was to conduct this research was on the campus of Texas A&M International University in the border city of Laredo, Texas. Texas A&M International University or better known as TAMIU has a student population of about 7,000 students who

range in undergraduates to doctoral students. The student population will give insight to academic excellence and student with a musical background to non-musical students. With permission of the university and the IRB, I was able to hand out a survey with a questionnaire for the TAMIU student population to take part of and participate. My random sample concluded with 545 students, although the survey was addressed to all students through written form or online, the focus was on students who were juniors and seniors since they have established and maintained their GPA. This study also focused on those students who are majoring in a STEM course, which provided information regarding if their musical background has assisted in the spatial-temporal reasoning of their field.

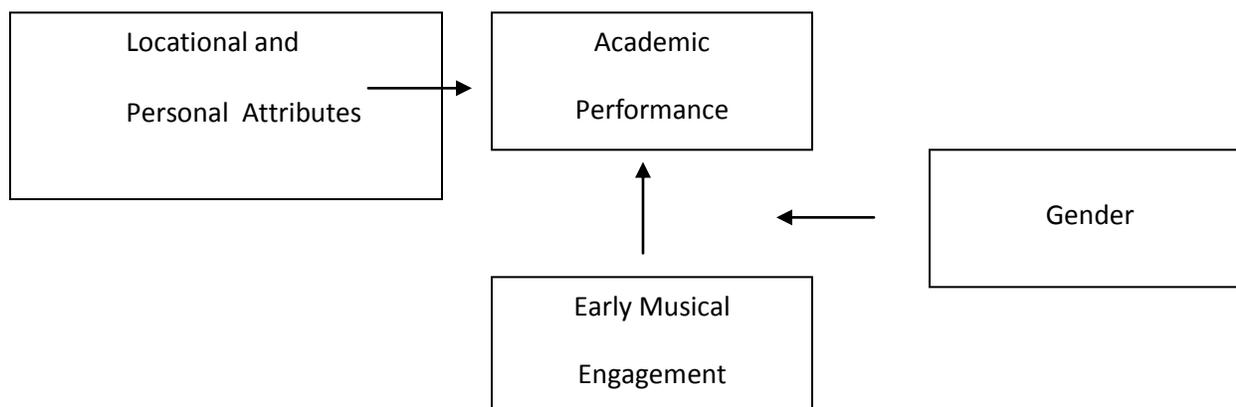
Choosing Texas A&M International University to conduct the research will be an accessible way to get the results. If research has a positive outcome on the campus, future surveys will be conducted within the community of Laredo and nationally. However results I would like to have, can possibly give some diverse results. Research in music is slowly escalating, but is gathering more attention as studies continue to progress.

Participants

The study population consisted of students attending Texas A&M International University in Laredo, Texas. The study used students of ages 18 and older and was not specific to any genders or ethnicities. With this population, I was able to find a balanced ground of former or continuous musical students to non-musical students. There were a total of 545 students who answered the questionnaire and who I gathered information for this research. The survey was conducted by establishing a correspondence with the professors of TAMIU to stop by their classrooms to distribute the surveys and to administer an anonymous survey placed on surveymonkey.com. The total respondent population resulted in an N = 545 students. My

target population will be students ranging in age of 18 – 99. This will give me a better sampling frame and receive more generalized information.

Figure 1. Theoretical Model



Theoretical Model Linking Academic Performance and Early Musical Engagement and the Moderating Role of Gender

In Figure 1, my theoretical model is established by my variables moderating into a plausible effect that within these variables provide a causal effect for academic achievement through musical performance. The hypothesis of this research is “Does participating in the musical arts in high school, predict academic achievement in college”? What is presented is that each variable moderates to the dependent variable of GPA or the academic performance of each respondent.

The first category labeled, “Personal and Locational” are variables such as gender, age, which high school the respondent attended, what city was the high school located, current classification in college, and the current college major. Within these categories there are variables known as ascribed and achieved. The ascribed traits will never change and or given through birth. This will be one of the several questions that will be answered within this study.

For the “Achieved traits”, these variables are the respondents current traits while in college. These variables include what high school, what city, and the current classification of the respondents. With these variables moderating to the dependent variable of GPA, and accurate account of research will be conducted to declare the status if musical students achieve a greater GPA of non-musical students.

The second category that moderates to the “Academic Performance” is labeled as “Early Musical Engagement”. The involvement of the respondent’s high school past is what is known as one of the main factors of the academic achievement. Variables that are included in this category are if the respondent participated in a musical ensemble in high school, which instrument, which ensemble, and the duration of years the respondent was in the ensemble in high school. The last category is called “gender” using only one variable, the respondents current major in college. Does the gender or the age of the respondent reflect the academics of the musician to achieve excellence? The discipline of the student while in a musical ensemble provides how the rationality of music is portrayed.

The rationality portrayed by music is a concept that “music serves as an image or rationality functioning in context, the context of human living” (Higgins 1992:627). How does music reflect the sociological aspects of a culture and society? The study of music is gained from two styles of studies, musicology and ethnomusicology. Musicology is the study of how the music is performed, composed and how it is interpreted. The study of ethnomusicology focuses more on the study of worldly music and cultures. While this shift in musical studies began in the 1950’s, European sociologists were already announcing the relative ideas of the sociology of music, hence the factors of sociologist Max Weber.

The idea of music at the time was to focus on having it played for social cultures rather than a means of employment. While music is a fun social activity, the production of music as employment and education is far fewer than others. In Max Weber's philosophy of Sociology of Music in *The Rational and Social Foundations of Music*, he combines the theories of urban, socioeconomic class and rationalization in a form of discussion that describes the social factors of music. With the use of Habermas's theory on Communicative Action, Weber's sociological theory can be placed within the cultural and social aspects of music and the focus on rationalization. "To the goal of formally analyzing the conditions of rationality; we can tie neither ontological hopes for substantive theories nature, history, society, and so forth, nor transcendental-philosophical hopes for and aprioristic reconstruction of the equipment of a no empirical species subject, of consciousness in general" (McCarthy 1984:2).

This rationality no longer resides to the use of individualistic principles of modern philosophy and social theory. Rather, Habermas places rationality in use of ability essential within the use of language, especially in the form of argumentation. The use or term or argumentation is the type of speech to which participants try to make an idea as a framework, questioned the validity claims and truths to attempt to defend or disapprove these claims through the use of argumentation. Habermas's theory places an importance on the structure of how argumentative speech is, and without the use of forceful intimidating; there can be a better understanding and a power of agreeable argument. With this Habermas reprises the role of the equality of everyone and the form of rationality can take place, thus making communication possible. Action undertaken by participants through a process of such argumentative communication can be assessed as to their rationality to the extent which they fulfill those criteria.

Weber begins his theory on rationalization with the process of involving music determined by the use of socioeconomic variables such as the Catholic Church. The relationship between theory and research is a given, but you cannot have one without the other. Theories give us a basis for knowledge, and are used to create the hypothesis, which is the research used to declare the theory is valid.

In the Catholic Church in the middle Ages, monks began to compose music for the first time. Because of this act, the monks were the first to notate music on paper and provide verification of the use of composition. Because of the way that secular music was notated in the church, this began the process of how music was supposed to be composed. A musical staff in most cases is constructed with two clefs, the Treble and Bass Clef. Within these clefs there would be an octave of 7 notes that started with Middle C or also known as C Major. This standardized notation became the requirements for all types of music regarding composition, instruments, orchestras and other ensembles. Since then, this became the rationalized version of composing music. Because of this form of composition, music that was considered irrational at the time was then forced into production and labeled as rationalized, to which followed specific rules and procedures.

How does the rationality of music affect the high school music programs? Is there any rationality to when it comes to high school ensembles? Rationality can be divided into two main cores; high and low. What would signify the differences between the two? As mentioned earlier, culturally, music was rationalized by the social factors that create a binding experience. For music to be considered as a high rational factor, the music would need to be bound by the society of ideologies that service and how music effects the values of that society. The constant note composition, performance and rehearsals would be highly structured to ensure accurate

presentation in the ensemble. With this, music can be structured into high rationality and low rationality to where the high school music participation can be structured.

When studying which ensembles were chosen, several of these ensembles would be referred to as highly rational while a few are considered to be low rational. What would be the difference between the two? For an ensemble to be highly rational, there would need to be strong structure within the rehearsal, because of the construction of systematic usage of the music being performed. When mixing the composition of a song, the harmonies create a selection of harmonies that can reflect the mathematical principles of rationality. Take for instance the participation of band and orchestra. Given that these two ensembles are usually the larger of the prospective ensembles, they hold a highly rational stance on structure. The engagement of the individual is determined by the quality and determination of the individual. The individual beliefs then in return provide the level of commitment that it takes for an ensemble like band or orchestra to thrive. The attention that an individual needs during a rehearsal is also very important and can show how structured and rational the ensemble is. One would not want to go to rehearsal and just play, the individual needs to be technically and emotionally connected to their duty as an ensemble member and follow through with the rules of playing in such an ensemble.

The structure of band or orchestra is simplistic, but must be followed in order to produce the right sounds. Each individual has their own instrument and must at all times obey the conductor and play correct notes. If the ensemble player is not paying attention, they will miss their cue and this will alter the rest of the members and performance. Basically looking at the conductor, follow his conducting, not missing your cue, and play the right notes. In band and orchestra, there is no room for errors, the participation the individual is enduring will theorize the

importance of musicianship during the duration of being a member of the ensemble. This in return results in a highly rational structured engagement.

In the confining of how structured and highly rational band and orchestra are, other ensembles such as choir and mariachi are left to be more considered low rational. While these two ensembles are structured just as band and orchestra, with choir and mariachi, there is more free access to be free with the music and room for interpretation. In choir, there is more imagination that can be expressed during rehearsal and a performance, and yet this is with a conductor as well. Soloists can sing with more articulations that are using different pitches to elongate or sustain a note while singing on a vowel. With this, there is not much concern for error, just artistic specifics.

In mariachi, all structures can seem non-existent, which would declare this ensemble to be a low rational group. “Functional analyses of musical structure cannot be detached from structural analyses of its social function: the function of tones in relation to each other cannot be explained adequately as part of a closed system without reference to the structures of the sociocultural system of which the musical is a part” (Higgins 1992:633). As in choir, mariachi is an ensemble where there more imagination, the better. There is a conductor for rehearsals but when it is time for the performance, the group will follow usually violin player and begin playing. Musical interpretation is encouraged because this enlightens the performance. While this is a cultural ensemble, and many people who know the music would know if the notes are being played wrong, the groups emotional and overall performance outshine the highly structured format of what an ensemble is supposed to be. The cultural society can identify with the emotions that are being portrayed by the performer, so that the errors in musical notation are overlooked. In return, this results in the ensemble presented as being low rational.

When these high school students eventually move on to college, the majors that those student achieve also fall into the categories of high and low rationality. With this research, data gathered by the respondent's majors would be declared by if the major's fall into a category called "STEM Majors". STEM refers to Science, Technology, Engineering and Mathematics. STEM Majors are those that are more scientific and mathematical and can be argued that against other majors in the arts such as English or History are more structured in learning and are considered highly rational. These majors include those such as Biology, Chemistry, Mathematics, and Engineering and can vary to learning about technical lab work to cognitive equations that can help cure a disease. The learning process engages the students to ask questions and is "inquiry-based, project based, and use real world applications" (O'Neill et al. 2012:38).

While STEM majors are to be considered to be highly rational, others such English, History, and or Spanish are considered to be having a rationalization of lower standards in the educational system. The non-STEM majors are faced with classroom lectures with no progression of projects and the learning structure of the pedagogy that STEM majors have enlisted by. But does majoring in a STEM major guarantee a higher GPA? This research will give knowledge on how productive and stable STEM majors are to non-STEM majors.

DATA GATHERING TECHNIQUES

The survey consisted of 11 questions relating to students musical and if this former background in musical played a role in their academics at TAMIU (see survey in appendix). The IRB consent form consisted of the name of the project and an introduction to the study. The questionnaire gave instructions on how the questions were to be presented and showed how they needed to be answered. The survey was conducted anonymously and was in authorization along the lines of the universities IRB Code. Making this survey available to all of the student population of Texas A&M International University gave the impression of how, if any academic achievement was achieved by a former background in the musical arts.

MEASUREMENT

The measurement for my survey was based on participation in a music program in high school and does it affect student's academic achievement in college. Did you participate in the musical arts in high school? If so, which ensemble? These questions are what I hoped to have answered. The dependent variable for my research was, did participating in a musical ensemble in high school gain academic achievement in college with in the end affecting your GPA. This dependent variable measured if the student is musically inclined the types of music ensembles those student participated in. To measure this variable, I used four different independent variables; what is your classification, did you participate in a music program while in high school, what musical program were you involved with, and what is your major? Each independent variable was coded with a dummy variable a measured into categories (Yes = 1 or No = 0), for example. Questions that were asked with answers pertaining to "Yes and No" were coded as (Yes = 1, No = 1). With question pertaining to more than 3 possible answers, they were coded in numerical order.

Sample Design

My research design consisted of a survey consisting of 11 basic questions in regards to music participation and education. With this design, I was able to measure the academic achievement for those who played an instrument or sang in a choir while in high school. Each question gave insight on how students performed academically with a musical background. The informed consent was handled by following the university's IRB guidelines and the survey being provided to students at Texas A&M International University during a one month period on the campus of TAMIU. (Please see Appendix A).

ANALYTICAL STRATEGIES

This research was conducted on the campus of Texas A&M International University in Laredo, Texas and began September 26th and ended October 20th of 2013 using students ranging from the ages of 18 and older. This analysis conducted included 11 questions regarding former music background, college majors and college GPAs. To examine the results and determine if these students did in fact achieve greater academic excellence will be based on the students' response to "What is your GPA"? To determine my results for this research, I created my data was by using a cross-tabulation table by using SPSS (Statistical Package for Social Sciences, Field 2006). This cross-tabulation that was used was used to measure the dependent variable which would be the GPA against my independent variables; classification, participating in a music program in high school, which ensemble and the major. One of the first measures that were measured for this study was to create descriptive statistic. There are several selections to choose from when creating a descriptive statistic, but for this purpose, I used only the mean, mode and median to measure the variables.

I used SPSS to collect data and incorporate the statistical analysis to see if students at TAMIU who were involved in the musical arts in high school achieve a greater outcome in their academics while in college. This data set was able to provide me with accurate percentages to academic achievement through music per majors. While running cross-tabulations and ordinal regressions in SPSS, I created a dummy variable for all of my variables to have the specifics that will be needed for this research. By doing this, I was able to see if any of my variables correlate with my dependent variable. Each variable was coded with another name for easier access in SPSS; (class), (gender), (age), (high school), (location), (playinst), (partmusic), (ensemble), (duration), (major), and (gpa).

Dependent and Independent Variables

What is your classification? Was first separated into four categories representing each classification; freshman, sophomores, juniors, seniors and graduates. Within each classification it was coded as a 1 to represent your classification. For example, freshman at the time of the survey, was coded; freshman = 1 while the other classifications were coded as a 0. What is your gender? Male =1 and Female =0. What is your age? Was coded by getting the average age of each range; 18-22 = 20, 23-26 = 24.5, 27-30 = 28.5, 31 -36 = 33.5, 37-39 = 38, and 40 and older = 40. What high school did you attend? Was coded by separating each school into the school districts in Laredo. There were two categories created, one for UISD and one for LISD. In the UISD category if the school listed belonged in that district it was labeled as a 1 while the others were labeled as a 0. The same goes for the LISD school district. What city was your high school located? Was coded by if the high school belonged in Laredo it was coded with a 1 and if the location was another city, it was coded as a 0. Do you play a musical instrument will be coded as 1= Yes and 0 = No. Did you participate in a music program while in high school? 1 = Yes 0 = No. If so, what musical program were you involved with? For the ensembles these were coded rationally according to the level of technicality. Mariachi, Guitar, Glee, Flute Choir, Piano, and Choir were coded as 1 for low rationality and Band and Orchestra were coded as 2 for high rationality. What is your major? The current TAMIU major was also coded as high and low rationality according the apparent difficulty of each major. The majors were separated into categories of STEM majors (Science, Technology, Engineering, Mathematics and Social Sciences) and Non-STEM majors. What is your GPA? The GPA of the students were coded into the average of each range of grade point averages. Less than 2.0 = 1, 2.0-2.49 =2.25, 2.5-2.99 = 2.75, 3.0-3.49 = 3.25, and 3.5 and higher is averaged at a GPA of 3.75.

RESULTS

The results of my thesis were based on research that was conducted during the month of October 2013 on the campus of Texas A& M International University and through the online server, surveymonkey.com. My dependent variable for this research was “What is your GPA?”, because this would show the basis of academic achievement in a student’s college career. The main focus of this research was to calculate data that could give insight of a music background to academic excellence in college. For the students who participated in a musical ensemble in high school, they were the core group to gain my data from. Within the 545 respondents to the thesis survey, 159 responded to having a musical background. By using an Ordinal Logistic Regression, there were significant impacts to the given data. An ordinal regression was conducted for the following tables because by using any other form of regression, the data would be too limited in variance. With being 545 total respondent rate, only 531 responses were used for the following data because the GPA was either less than 2.0 or question was not answered.

In Table 1, what is presented are the variables that were thought to have the most impact on a student’s GPA. In the basic statistics, we can see is that for the students GPA, the average score was a 3.25 GPA compared to the minimum of a 2.0 and 4.0. Students from schools in Laredo were 77% of the total respondent rate with 29% from the Laredo Independent School District (LISD) and 45% were from the United Independent School District (UISD). In this table we can also see that the average age of the students were at 23 years old with a minimum of 20 years and a maximum of 40 years with 34 percent as males. For the classifications of the respondents, 22% were freshman, 16% were sophomores, 22%, seniors at 27% and graduate students at about 12%. The degree of rationality of an ensemble showed that 47% of the

respondent rate was in a musical ensemble in high school and 82% of the respondent rate were in the ensemble in duration of years.

Table 1. Basic Statistics for Variables of the Study

Variables ¹	Mean	SD	Min	Max
Grade Point Average	3.25	.59	2.00	4.00
Student is from Laredo (1=yes; 0=no)	.77	.42	0.00	1.00
Student is from LISD ² (1=yes; 0=no)	.29	.45	0.00	1.00
Student is from UISD ³ (1=yes; 0=no)	.45	.50	0.00	1.00
Age of the Student (in years; midpoint)	22.92	5.46	20.00	40.00
Student is male (1=yes; 0=no)	.34	.47	0.00	1.00
Student is a graduate student (1=yes; 0=no)	.1243	.33	0.00	1.00
Student is a freshman (1=yes; 0=no)	.22	.42	0.00	1.00
Student is a sophomore (1=yes; 0=no)	.16	.37	0.00	1.00
Student is a junior (1=yes; 0=no)	.22	.42	0.00	1.00
Student is a senior (1=yes; 0=no)	.27	.45	0.00	1.00
Degree of Rationality of HS Ensemble (High=2,Low=0)	.47	.79	0.00	2.00
Years in High School ensemble (No. of years)	.82	1.49	0.00	4.00

¹ sample size n = 531

² LISD - Laredo Independent School District

³ UISD – United Independent School District

In Table 2, the results of an Ordinal Logistic Regression Main Effects analysis are shown. The variables that were chosen for this regression was GPA as the dependent variable, the location of the city, the school districts, the age of the student, the gender, if a graduate student, the rationality of the high school ensemble with certain ensembles being decided as high rational and low rational, and the years of duration in the ensemble. From these results, neither of the variables pertaining to early musical engagement (i.e., degree of rationality of ensemble and years in an ensemble) are significant. In other words, the degree of rationality and length of time

with an ensemble in high school do not have any predictive influence on college GPA. With the contextual variables, being a graduate student is significantly associated with an increased GPA (estimate=1.571; p-value=0.000). All other contextual variables have no association with college GPA. While choosing these variables to work with, we see that there is a significance in a student being a graduate student. This however, does not show any major impact to the GPA and to the early musical engagement of the respondents.

Table 2 Ordinal Logistic Regression - Main Effects Model (M1)

Independent Variables	Estimate	Std. Error	P-value
Threshold NGPA = 2	-2.085	.497	.000 ⁴
Threshold NGPA = 3	1.225	.483	.011 ³
Contextual variables			
Student is from Laredo (1=yes; 0=no)	-.196	.498	.694
Student is from UISD (1=yes; 0=no) ¹	.180	.481	.709
Student is from LISD (1=yes; 0=no) ²	.336	.496	.498
Personal Characteristics			
Age of Student (in years; midpoint)	.010	.019	.611
Student is male (1=yes; 0=no)	.039	.193	.838
Student is a graduate student (1=yes; 0=no)	1.571	.324	.000 ⁴
Early Musical Engagement			
Degree of Rationality of HS Ensemble (High=3, Med = 2, Low=1)	.257	.280	.358
Years in High School ensemble (No. of years)	-.086	.147	.559

¹ UISD - Laredo Independent School District

² LISD – United Independent School District

³Significance at the 5% level.

⁴Significance at the 0.1 level

In Table 3 rather than just have an Ordinal Logistic Regression- Main Effect Model (M1), I gathered information to create an Interaction Effect by using an ordinal regression. The results of an Ordinal Regression Interaction Effects Models indicate significant interactions for the students' gender of the rationality of the high school ensemble participated in and the students' gender and length of time spent in a high school ensemble. These significant interaction effects mean that the association between degree of rationality of an ensemble and academic performance, and the association between length of time in an ensemble and academic

performance are both dependent on students gender. In this regression, besides the significance a graduate student, there is now a new variable that shows a strong significance to the regression which revolves around the gender in the rationality of ensemble and their participation in the ensemble in years. Based on the significance shown below, the duration that males or females were in the ensemble and rationality of the ensemble shows that there is an impact to the academic achievement. What is important here is that now we can see which direction the regressions are going towards and how gender will ultimately affect the impact of music and college academic achievement. To continue the research needed to determine the major impact of the research, as Spitz Effects model was then created to measure the gender against the GPA and early musical engagement.

Table 3 Ordinal Logistic Regression Model- Interaction Effect with (M2)

Independent Variables	Estimate	Std. Error	P-value
Threshold NGPA = 2	-2.138	.500	.000 ⁴
Threshold NGPA = 3	1.197	.486	.014 ³
Contextual variables			
Student is from Laredo (1=yes; 0=no)	-.260	.503	.605
Student is from UISD (1=yes; 0=no) ¹	.203	.486	.676
Student is from LISD (1=yes; 0=no) ²	.364	.501	.467
Personal Characteristics			
Age of Student (in years; midpoint)	.010	.019	.589
Student is male (1=yes; 0=no)	-.018	.223	.935
Student is a graduate student (1=yes; 0=no)	1.561	.325	.000 ⁴
Early Musical Engagement			
Degree of Rationality of HS Ensemble (High=3, Med = 2, Low=1)	-.183	.343	.593
Years in HS ensemble (No. of years)	.124	.174	.475
Student is male * (Degree of Rationality HS Ensemble)	1.457	.639	.023 ³
Student is male* (Years in Ensemble)	-.751	.341	.028 ³

¹ UISD - Laredo Independent School District

² LISD – United Independent School District

³Significance at the 5% level.

⁴Significance at the 0.1 level.

The nature of these interaction terms are then explored further and is done by performing two ordinal logistic regression main models for female (Table 4) and for males (Table 5), separately. It is clear from Table 4 that for female students, the degree of rationality of an ensemble and the length of time spent in an ensemble has nothing to do with academic performance, there is no significance to this data. These statements are made on the basis of the non-significant results of degree of rationality (estimate = - 0.177; p-value = 0.0606), and years in HS ensemble (estimate = +0.124; p-value 0.474).

Table 4 Ordinal Logistic Regression – Main Effects Model for Females (M3a)

Independent Variables	Estimate	Std. Error	P-value
Threshold NGPA = 2	-1.980	.574	.001 ⁴
Threshold NGPA = 3	1.394	.558	.013 ³
Contextual variables			
Student is from Laredo (1=yes; 0=no)	-.113	.618	.855
Student is from UISD (1=yes; 0=no) ¹	.152	.596	.799
Student is from LISD (1=yes; 0=no) ²	.335	.613	.585
Personal Characteristics			
Age of Student (in years; midpoint)	.016	.022	.464
Student is a graduate student (1=yes; 0=no)	1.301	.389	.001 ⁵
Early Musical Engagement			
Degree of Rationality of HS Ensemble (High=3, Med = 2, Low=1)	-.177	.343	.606
Years in HS ensemble (No. of years)	.124	.173	.474

¹ UISD - Laredo Independent School District

² LISD – United Independent School District

³Significance at the 5% level.

⁴Significance at the 1% level.

⁵Significance at the 0.1 level

In the case of male students in Table 5, the results depict a different scenario from those of female students, Table 5. This difference is expected given the observed significant interaction terms shown in Table 3. For males, involvement in a highly rational ensemble is significantly linked to higher academic performance (estimate = -0.633; p-value 0.033). For both males and females students, it is worthy to note that the status of being a graduate student

translates to high academics in college for females. (Table 4) estimates = +1.301; p-value 0.001 as well as for males (Table 5; estimate = + 2.226; p-value = 0.000).

Table 5 Ordinal Logistic Regression – Main Effects Model for Males (M3b)

Independent Variables	Estimate	Std. Error	P-value
Threshold NGPA = 2	-2.710	.981	.006 ⁴
Threshold NGPA = 3	.566	.947	.550
Contextual variables			
Student is from Laredo (1=yes; 0=no)	-.795	.879	.366
Student is from UISD (1=yes; 0=no) ¹	.488	.850	.566
Student is from LISD (1=yes; 0=no) ²	.658	.884	.457
Personal Characteristics			
Age of Student (in years; midpoint)	-.013	.040	.749
Student is a graduate student (1=yes; 0=no)	2.226	.629	.000 ⁵
Early Musical Engagement			
Degree of Rationality of HS Ensemble (High=3, Med = 2, Low=1)	1.294	.546	.018 ³
Years in HS ensemble (No. of years)	-.633	.297	.033 ³

¹ UISD - Laredo Independent School District

² LISD – United Independent School District

³Significance at the 5% level.

⁴Significance at the 1% level.

⁵Significance at the 0.1 level

Besides running an ordinal regression, I also conducted several cross-tabulation tables referring to each independent variable. In Table 6 (please see Appendix B), the dependent variable, GPA, gained a majority respondent of 34% with 54 students stating that their GPA was a 3.0-3.49. With a very close second of 33.33% with 43 students stating their GPA was a 3.5 and higher. 37 students stated that they had a GPA of 2.5-2.99 with 23.27%. 15 students with a 9.4% stated they had a GPA of 2.0-2.49 and 2 students with 1.25% stated that they had a GPA less than a 2.0.

In Table 7 (please see Appendix B), the independent variables starting with *what is your classification?* With the majority overall consensus belonging to the freshman, for the purpose of this study of a musical background, the overall respondents was seniors at 40 students with

25.2% of the respondents. This is closely followed by juniors with 39 students at 24.5%. In Table 8 (please see Appendix B), variable, *Gender*, stated that there were more females that who were involved with music with a 66.7% of 105 students, while 33.3% of 53 male students participated in music while in high school.

In Table 9 (please see Appendix B), for variable *Age*, the majority of the students ranged in ages from 18-22 years of age with a 71.7% of 114 students. While ages 23-26 followed with an 11.3% and an 18 of students. Table 10 (please see Appendix B), variable, *high school*, United High School in Laredo, Texas was the top school attended with 16.4% and a number of 26 students, followed by J.W. Nixon high School at 13.2% with 21 students. United South High School also in Laredo, Texas had 10.7% with a total of 17 students. For Table 11 (please see Appendix B), variable *city*, showed that most of the respondents stated that their high school was located in Laredo, Texas with 77% with a number of 122 students followed by a Zapata, Texas with 7 students at 4.4% and Hebbronville, Texas with 2.5% with 4 students.

In Table 12 (please see Appendix B), variable, *playinst*, with the total number of respondents at 159, 117 students at 71.7% responded to playing a musical instrument while 45 students at 28.3% stated that they did not. This may seem misleading if a student responded no for this answer, but this could lead to those students who participated in choir rather than band or orchestra. For Table 13 (please see Appendix B), variable, *partmusic*, out of the total 545 students who responded to the survey, 159 answered yes to question verifying their time participating in a musical ensemble in high school.

In Table 14 (please see Appendix B), variable, *ensemble* showed a variety of different music ensembles that the students participated in while in high school. Besides the ensembles already mentioned, Piano ensemble and Flute ensemble were also included. The top ensemble

was band with a total of 95 students with 59.7% followed by choir with 33 students at 20.8%. Table 15 (please see Appendix B), variable *how long*, found that most of the respondents were in an ensemble for 3-4 years with 98 students at 67%. Followed second was 1-2 years with 39 students at 25%. For Table 16 (please see Appendix B), variable, *major*, consisted of 37 majors declared during the process of the survey. Since this research is primarily to see the results of students with a music background, a major in music would seem to get the most results, but the majority of the respondents were actually students of what is called STEM courses. STEM courses are those that include Science, Technology, Engineering, and Mathematics and also include the Social Sciences. With most of the students stating that Biology was their major with 18 students at 11.3% followed by Engineering with 8.1% and Mathematics with 6 students at 4%.

In Table 17 (please see Appendix B), these results show just how being in a musical ensemble has in anyway affected the academic grade point average of the students of TAMIU. What we see here is that the particular ensemble gave insight of how each student is portrayed. Belonging to band, choir and orchestra. If determining academic achievement from GPAs students who had a GPA of 3.5 and higher would demonstrate academic excellence. The top selected ensemble was band. There were 32 students who obtained a GPA of 3.5 and above followed by Choir which had 11 students. This shows that students who are involved in an instrumental ensemble are more likely to achieve better grades than those who are in a vocal ensemble. “The musicians performed better on tasks of both verbal and visual memory than non-musicians” (Hanna-Pladdy and MacKay 2011:379). Band overall had the higher GPAs for students who were established at 3.0-3.49 with 35 students and those who were 3.5 and higher.

What we can also see in this study was that the overall GPA for all the music students were 54 students with a GPA of 3.0-3.49.

In Table 18 (please see Appendix B), that was arranged to find out any specific information regarding the school district that reside in Laredo, Texas. In Laredo, there are only two school districts, Laredo Independent School District and United Independent School District. What I found was the school with the most alumni that had a GPA of 3.5 and higher were the alumni from United High School, part of the United Independent School District. The results also show that United had one of the highest numbers for also having the alumni with a GPA of 3.0-3.49 with 10 students. In total United High had a good number of alumni who were involved in the music program which includes Band and Choir. Another school within this school district, United South, shows that the alumni were prone to GPAs of 3.0-3.49 with 8 students. This could be due to that United South musical program only consists of a Wind Ensemble and there is not allot of variety of musical participation. Lyndon B. Johnson results show that 6 students achieved a GPA of 3.5 and higher which shows the combination of ensembles of choir and band show these ensembles helped the students in their academics. While United, United South and Lyndon B. Johnson show how music participation has helped the academics of these alumni, Alexander High School alumni only show 2 alumni with a 3.5 or higher GPA. As well as the numbers get larger as the GPA lowers.

For the high schools located in the Laredo Independent School District, we see that the numbers get even less than the alumni from United Independent School District. With a total of 22 students, Nixon High School seems to have a good ration of music alumni compared to the other schools. But for determination of GPAs, the majority of the alumni fall below 3.5. Nixon High School is known as one of the top bands in Laredo and with their motivation to succeed,

you can see that 15 out of the 22 students did have a GPA of 3.0 and above. But yet only 4 of them actually were 3.5 and higher.

The results for Martin High School, Laredo's first high school, falls below Nixon with 10 music alumni, only 1 is achieving a GPA of 3.5 and higher. Three alumni have a GPA of 3.0-3.49 and the rest are falling below 3.0. Martin as Nixon only have one ensemble, band. With the recognition and stamina of the Martin Tiger Band, it would be hopeful that the motivation musical education they received would continue to play out in their college academics. Cigarroa High School shows more promise with the 14 music alumni, 6 of them have a GPA of 3.5 or higher, while 4 alumni have a GPA of 3.0-3.49. With the mixture of band, guitar and orchestra, it looks like these options have helped the students gain knowledge and education that has continued in college.

While the first three schools all music participation amongst their ensembles, Early College located on the campus of Texas A&M International University, still do not have any music programs. For the 6 alumni who answered the questionnaire, it is assumed these alumni went the previous schools mentioned and then transferred to Early College, which is a magnet school for college preparation. With these 6 alumni only 1 had a GPA of a 3.5 while 3 had a GPA of 3.0-3.49 and the following 2 alumni falling below. The results also show that 40 Texas A&M International University students did not respond to which high school they attended and the results are unable to track their GPAs.

Overall, there were 19 United Independent School District alumni who are currently at a 3.5 or higher GPA out of 67 with the alumni from Laredo Independent School District with 12 alumni out of 52. By calculating the districts if we have 19 students out of the total 67 students for the Independent School District, it calculates 28.3%, while the Laredo Independent School

District had 12 out of the total 52 which calculates to 23%. This shows us that the top school district for Laredo is the United Independent School District by a difference of 5.3%. There could be reasons as to how this school district beat the other. One example would be in the United Independent School District there are far more music options for the students to receive. In total United Independent School District had band, choir, orchestra, mariachi, percussion ensemble and wind ensemble. Compared to the Laredo Independent School District which only had band, guitar orchestra, or mariachi, the many options give students a diverse musical education which can assist in core education such as reading, science and mathematics.

If we calculate according to each school, Lyndon B. Johnson High School ranked as the top school whose alumni are achieving academic excellence in college with 67%. The second school on top would be Cigarroa High School with a total of 43%, third would be United High School at 27%, fourth would be United South High School at 24%, fifth would be Nixon High School at 18%, sixth would be Early College at 16%, seventh would Alexander High School at 13% and last would be Martin High School at 10%. By looking at these results we see that a United Independent School District school was the top ranked for highest number of alumni with GPAs.

In Table 19 (please see Appendix B), we can see how the results show how the GPAs affected those alumni from schools in Laredo, Texas and non-Laredo schools. The results presented show out of the 159 students from Texas A&M International University who participated in music in high school, 116 of them belonged to a high school located in Laredo, Texas. There were 21 students who did not go to a Laredo, Texas high school and varied from places such as Hebbronville, Texas, Muncie, Indiana, to international schools located in Mexico and Germany. There were also 22 students who did not answer the question. Overall, the results

show out of the 116 alumni who responded to having a 3.5 or higher GPA, those 29 respondents calculated to 25% of the total surveyed. Those alumni who attended another school in another city or town, out of the 21 alumni, 6 respondents achieved a GPA of 3.5 and above which calculated to 29% of the total surveyed. What does this tell us? The findings in Table 14, show us that while most of the respondents who actually went to high school in Laredo, they still did not outnumber the alumni from non-Laredoans.

In Table 20 (please see Appendix B), to accurately see if this study resulted in music participation in high grants academic achievement in college, comparing the GPAs of musical and non-musical respondents is needed. Out of the 159 respondents who replied to participating in a musical ensemble in high school, 53 of those respondents conveyed that they had a GPA of 3.5 or higher resulting in 33% of the total respondents. For the non-musical respondents, out of the 355 respondents who replied, 106 replied that they had a higher GPA above a 3.5. This resulted in the non-musical students responding to 30% of the overall total percentage. By 3%, the alumni from musical ensembles from high schools are academically better than those alumni who did not participate in a musical program in high school. This shows the musical Texas A&M International University students who were musical in high school are doing far better than non-musical college students.

DISCUSSION

One item that struck my curiosity was if the students who participated in a musical ensemble in high school, did they just participate in high school or had their musical training began in middle school or elementary? Since this research was solely based on high school participation, this question would not be relevant, but for any future research this would be an important factor to consider. Does the duration of participation garner better success in life? Social factors such as attitude, academics, social behavior, adjustments after high school, careers, to name few would be possible factors to look into in calculating information regarding musical duration as children to young adults.

With the given results, this shows that the males have a significant impact on a background in music and how it affects college academics, and in this regards would be their GPA. Why would this be so? With the significance revolving around the rationality of the ensemble and years in duration of the ensemble, are we to assume that the males, because they participated in a highly structured ensemble such as band or orchestra with strong structure and discipline, are more likely to have higher GPAs? Do the social skills and teamwork practices that they learn help them to become better students? If so, then the years of participation would show that besides enjoying the ensemble that they are in, they are becoming more structured themselves which in return would continue to progress into their college years. In this case, do males need the extra effort to succeed rather than the females who from the results seem to be steady in their academics? The females in these results showed no significant impacts to the study, hence showing that their GPAs do not increase or decrease, but remain steady at a decent grade point average. One other significant variable was the classification of graduate students. It can also be asked out of all the classifications, why a graduate student would achieve better

grades? We are to assume that since these students are already graduate students, they should already be great students within their field considering they are continuing the same major as their undergraduate degree.

During this research, music has been found to be an important factor in lives of people everywhere every day. This could be due to our emotions and moods that are explained previously in this study. Since this study has been completed, the results give insight of how music affects the academics of those who play and instrument or sing. As these respondents graduate from Texas A&M International University, what happens then? Does the background in music still apply to their career? This intriguing study will overall state whether music does indeed assist in the social career as an adult. All the music participation, preparations and academic achievement in college, did it ultimately gained the person skills that they can outperform because of their musical background? How this would be proposed would be to do a study with those who have a musical background and pick careers that would be more noticeable as having important skills such as doctors. Doctors are proclaimed as one of the most important professions in the world and to be able to provide adequate surgeries, they need to have outstanding skills in and out of the emergency room. Does perhaps the genre of music play a factor in the study habits while in medical school; do these doctors still listen to the same genre while in surgery? All these questions are what I hope to gather and eventually see how music affectively performs on skills of a career.

As Max Weber has stated that “the issue is not simply left with the rhetorical question, to what extent does the structure of Western music display a rationality paralleling that found in other areas of Occidental social, institutional, and technological life” (Weber:xxxiii).

Weber based this theory before his death in 1920 as the end of World War I had prevailed and the end of the German Revolution, and with the assistance of his widow, Marianne Weber in 1921 this theory of music and sociology was printed as part of *Economy and Society* and was called *The Rational and Social Foundations of Music*. Weber believed that music evolved around cultures and the way that music was composed was based on the Catholic Church and monks who first composed Gregorian Chants. Because of these socioeconomic variables, Weber formed the basis for the sociological aspects of music. As time has progressed, there have also been new visions of the sociology of music, most recently by author Ruth Wright who in 2010, wrote about the sociological aspects of music in regards to our government and the power it has to overthrow our educational system and the removal of the arts in public education, such as music. “Recent global changes in communications and demography, affording unprecedented diversity in the range of music which is produced and consumed in any one place, are going hand in hand with increasing interest by music-education researchers in sociological methods as well as related areas such as ethnomusicology” (Wright 2010:21).

For music education to be regarded as a social system it would need to be accepted with a variety of ideas and visions rather than it is conceptualized. Because of the government’s role and over-empowerment of the educational system, students are left to be in music classes that are there to fill in the time period rather than teach. As much as it is important for teachers to follow a direct lesson plan provided by their school district or state, many teachers are felt that the curriculum is not honestly based on teaching the students’ music, but rather prepare them for state exams that don’t really find the true potential of the students. Instead of teaching students how to learn how to read the treble clef, music teachers in the elementary level are made to teach historical events while learning how to sing a song.

CONCLUSION

The results shown above designate that despite out of the 545 total respondents of the survey only 159 provided information regarding participation in a musical ensemble, that for those students it seems that their musical background provided some skills that have affected their college academics. This goes for the students who are majoring in the STEM courses and to those students whose GPAs were 3.5 and above. By using also the respondent's current major, this gave an opportunity to present some significance into the respondents who were male and the amount of years that they participated in a musical high school ensemble. The dependent variable, GPA, results showed the majority respondents had a 34% with 54 students stating that their GPA was a 3.0-3.49. While 33.33% with 43 students stating their GPA was a 3.5 and higher. Following this were 37 students stated that they had a GPA of 2.5-2.99 with 23.27%. Lastly, 15 students with a 9.4% stated they had a GPA of 2.0-2.49 and 2 students with 1.25% stated that they had a GPA less than a 2.0.

For classification, the majority of the respondents who participated in a musical ensemble were the freshman. This is followed by the seniors, juniors, sophomores and then ending with the graduate students of Texas A&M International University. For the gender of the respondents there were more females that who were involved with music with a 66.7% of 105 students, while 33.3% of 53 male students participated in music while in high school. With the gender in place the majority of respondents were of ages 18-22 with 117 respondents. For those who answered "Yes" to participating in music in high school, the majority of those respondents attended United High School in Laredo, Texas which also was the most populated city for high schools. The top choice of ensemble for the respondents was the selection of band and also had the respondents with the highest GPA of 3.5 and above. The duration of the choices also helped the respondents

achieve academic excellence by being in the ensembles for all 4 years. Because of their musical participation, this chance has helped the respondents in college and those who are majoring in Biology and Engineering show the most promise with better education in college. Also, those respondents who attended high schools in the United Independent School District had a higher GPA by 3% compared to those respondents who are alumni to the Laredo Independent School District.

By using an Ordinal Logistic Regression Model, we saw that there were significances in the data regarding if student was a graduate student, the rationality of the ensemble and the years of the duration of the ensemble in high school. By creating an Interaction Model, I was able to decipher that gender played an important role in the musical educational experience and college academics. Once gender was ruled as an important impact, a Split Model was then created to find which specific gender had an impact. The data showed that there was a great impact on the males that participated in a musical ensemble in high school and the duration or years that they were involved in the ensemble. With this males were more likely to have higher GPAs in college with the assistance of their former background in music.

Does this research prove that participating in a musical program in high school give a better chance of a higher GPA in college? According to this research it does indeed prove that musical students gather more information and education by performing music within their lives. Although the difference is 3%, it does give a good insight of how important music is to our educational system and why it is truly imperative to keep the musical arts in our schools. By participating in music the research has shown us that with these musical skills, it has helped our nation's students with reading, language, mathematics and science. With these lessons learned they also help structure our children into smart, functional and capable adults. We all need

music and in the end, it will give us a power to be a better human being, educationally and physically.

REFERENCES

- Anastasi, Aaron P. 2005. "Adolescent Boys' Use of Emo Music as Their Healing Lament." *Journal of Religion and Health* 44(3):303-19.
- Anderson, Lawrence. 1975. "The Effects of Music Literature in Developing Aesthetic Sensitivity to Music." *Journal of Research in Music Education* 23(1):78-74.
- Antrim, Doron K. 1944. "Music Therapy." *The Musical Quarterly* 30(4):409-20.
- Biernat, Nancy A. and Edward J. Klesse, 1989. "The Third Curriculum: Student Activities." Reston, VA:National Association of Secondary School Principals pp.51-52.
- Blood, Anne J. and Robert J. Zatorre. 2001. "Intensely Pleasurable Responses to Music Correlate with Activity in Brain Regions Implicated in Reward and Emotion." *Proceeding of the National Academy of Sciences of the United States of America* 98(20):11818-11823.
- Cerulo, Karen A. 1989. "Sociopolitical Control and the Structure of National Symbols: An Empirical Analysis of National Anthems." *Social Forces* 68(1):76-99.
- Cool, Lisa Collier. 2013. "Surprising Differences Between the Male and Female Brain." Yahoo Health. Retrieved April 11,2014. (<http://health.yahoo.net/experts/dayinhealth/surprising-differences-between-male-and-female-brain200>)
- Dainow, Elliot. 1977. "Physical Effects and Motor Responses to Music." *Journal of Research in Music Education* 25(3):211-21.
- Goldstein, Avram, and Patricia J. Lowery. 1975. "Effect of the opiate antagonist naloxone on body temperature in rats". *Life Sciences* 17(6):927-31.
- Gorman, Fitzalan. 2014. "Number of High School Students Enrolled in Music Programs."

- “Globalpost: EverydayLife by Demand Media.” Retrieved April 16, 2014.
(<http://everydaylife.g;obalpost.com/number-high-school-students-enrolled-music-programs-3990.html>)
- Green, Ray. 1947. “Music in the Veterans Hospitals.” *Music Educators Journal* 34(2):22-24.
- Hanna-Pladdy, Brenda and Alicia MacKay. 2011. “The Relation Between Instrumental Activity and Cognitive Aging.” *Neuropsychology* 25(3):378-86.
- Hetland, Lois. 2000. “Listening to Music Enhances Spatial-Temporal Reasoning: Evidence for the “Mozart Effect.” *Journal of Aesthetic Education* 4 (3/4):105-48.
- Higgins, Kathleen M. 1992. “Apollo, Music, and Cross-Cultural Rationality.” *Philosophy East and West* 42(4):623-41.
- Johnson, Julie E. 2003. “The Use of Music to Promote Sleep in Older Women.” *Journal of Community Health Nursing* 20(1):27-36.
- Ladinig, Olivia and E. Glenn Schellenberg. 2012. “Liking Unfamiliar Music: Effects of Felt Emotion and Individual Differences.” *Psychology of Aesthetics, Creativity, and the Arts* 6(2):146–54.
- Lewis, Barbara E. and Charles P. Schmidt. 1991. “Listener’s Response to Music as a Function Personality Type.” *Journal of Research in Music Education* 39(4):311-21.
- McCarthy, Marie. 2000. *Music Matters: “A Philosophical Foundation for a Sociology of Music Education.”* *Bulletin of the Council for Research in Music Education* (144):3-9.
- Morrison, Steven J. 1994. “Music Students and Academic Growth.” *Music Educational Journal* 81(2):33-36.
- Mueller, M. 1984. “Right Brain Strategies for the Full Development of the Individual Through Study of the Arts.” *A Review of General Session II ACC-VACC Conference*

- Sacramento, Ca. February 21, 1984. San Francisco, City College of San Francisco.
- O'Neill, Tara, Lisa Yamagata, Justin Yamagata, and Susan Togioka. 2012. "Teaching STEM Means Teaching Learning." *Phi Delta Kappan* 94(1):36-40.
- Parsons, Lawrence. Society of Neuroscience. University of Texas San Antonio.
(interview).
- Peretti, Peter O. and Kathy Swenson. 1974. "Effects of Music on Anxiety as Determined by Physiological Skin Responses." *Journal of Research in Music Education* 22(4):278-83.
- Robertson-DeCarbo, Carol E. 1974. "Music as Therapy: A Bio-Cultural Problem." *Ethnomusicology* 18(1):31-42.
- Thompson, William Forde, Glenn E. Schellenberg, Gabriela Husain. 2001. "Arousal, Mood, and the Mozart Effect." *Psychological Science* 12(3):248-51.
- Tramo, Mark J. 2001. "Music of the Hemispheres." *Science*: 291(5501):54-56.
- Weber, Max, DCN Martingale, Johannes Riedel, and Gertrude Neuwirth. 1958. *The Rational and Social Foundations of Music*. Illinois: Southern Illinois University Press.
- Wright, Ruth. 2010. *Sociology and Music Education*. Burlington, VT: Ashgate.

APPENDIX A
SURVEY QUESTIONS

The following survey is going to ask you questions concerning if listening to music while studying affects your academic achievement. This survey is completely anonymous and no individual identifiable information will be reported, information will be reported only in aggregate form. Please answer each question as honestly as you can, there are no right or wrong answers. If you have any questions or concerns, please feel free to contact, Vanessa Almaraz, 956-326-2877 at vanessa.almaraz@tamiu.edu. This research study has been reviewed by the Institutional Review Board (IRB), protocol # 2013-09-12, at Texas A&M International University. For questions regarding your rights as a research participant, or if you have complaints, concerns, or questions about the research, you can contact Dr. Jennifer Coronado (English), IRB Chair, 956-326-2673, irb@tamiu.edu, or Dr. Roberto Heredia (English/Spanish), 956-326-2637, rheredia@tamiu.edu. (Please see Appendix A)

1. What is your classification?

Freshman Sophomore Junior Senior Graduate

2. Are you male or female? _____

3. What is your age? _____

4. What high school did you attend? _____

5. In what city or town did you attend high school? _____

6. Do you play a musical instrument (instrumental and vocal)

Yes No

7. Did you participate in a music program while in high school?

Yes No

8. If so, what musical program were you involved with?

Choir Band Orchestra Mariachi N/A

9. How long were you involved in the ensemble? _____

10. What is your major? _____

11. What is your overall TAMIU GPA?

Less than 2.0 2.0-2.49 2.5-2.99 3.0-3.49 3.5 or higher

APPENDIX B
FREQUENCY DISTRIBUTION TABLES

Table 6 **What is your classification?**

	Frequency	Percent	Valid Percent	Cumulative Percent
Freshman	37	23.3	23.3	23.3
Sophomore	24	15.1	15.1	38.4
Junior	39	24.5	24.5	62.9
Senior	40	25.2	25.2	88.1
Graduate	19	11.9	11.9	100.0
Total	159	100.0	100.0	

Table 7 **Are you male or female?**

	Frequency	Percent	Valid Percent	Cumulative Percent
Female	105	66.1	66.1	66.1
Male	53	33.3	33.3	99.3
Total	159	100.0	100.0	100.0

Table 8 **What is your age?**

	Frequency	Percent	Valid Percent	Cumulative Percent
18-22	114	71.7	71.7	71.7
23-26	18	11.3	11.3	83
27-30	6	3.8	3.8	86.8
31-36	9	5.7	5.7	92.5
37-40	2	1.2	1.2	93.7
40 and older	10	6.3	6.3	100.0
Total	159	100.0	100.0	

Table 9 **What high school did you attend?**

	Frequency	Percent	Valid Percent	Cumulative Percent
United	26	16.4	16.4	16.4
J.W. Nixon	21	13.2	13.2	27.6
United South	17	10.7	10.7	38.3
J.B. Alexander	15	9.4	9.4	47.7
Dr. Leo G. Cigarroa	12	7.5	7.5	55.2
Martin	10	6.3	6.3	61.5
Lyndon B. Johnson	9	5.6	5.6	67.1
Early College	6	3.7	3.7	70.8

(Table 9 Continued)

Zapata	5	3.1	3.1	73.9
Hebbronville	4	2.5	2.5	76.4
Harmony Science – Laredo	3	1.9	1.9	78.3
St. Augustine	2	1.3	1.3	79.6
Other	29	20.4	20.4	100.0
Total	159	100.0	100.0	

Table 10 In what city or town did you attend high school?

	Frequency	Percent	Valid Percent	Cumulative Percent
Laredo, Texas	122	77	77	77
Zapata, Texas	7	4.4	4.4	81.4
Hebbronville, Texas	4	2.5	2.5	83.9
Carrizo Springs, Texas	2	1.3	1.3	85.2
Nuevo Laredo, Mexico	2	1.3	1.3	86.5
Other	22	13.5	13.5	100.0

Table 11 Do you play a musical instrument (instrumental and vocal)?

	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	114	71.7	71.7	71.1
No	45	28.3	28.3	28.3
Total	159	99.4	100.0	100.0

Table 12 Did you participate in a music program while in high school?

	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	159	29.1	29.1	29.1
No	386	70.9	70.9	100.0

Table 13 If so, which ensemble did you participate in?

	Frequency	Percent	Valid Percent	Cumulative Percent
Band	95	59.7	59.7	59.7
Choir	33	20.8	20.8	80.5
Orchestra	11	6.9	6.9	87.4
Guitar	4	2.5	2.5	89.9
Mariachi	4	2.5	2.5	92.4
Piano	2	1.3	1.3	93.7
Guitar	1	0.6	0.6	95.0
Flute	1	0.6	0.6	95.6
Total	159	100.0	100.0	

Table 14 **How long were you in the ensemble?**

	Frequency	Percent	Valid Percent	Cumulative Percent
1 year	19	11.9	14.0	11.9
2 years	19	11.9	14.0	27.9
3 years	18	11.3	13.2	41.2
4 years	80	50.3	58.8	100.0

Table 15 **What is your major?**

	Frequency	Percent	Valid Percent	Cumulative Percent
Biology	18	11.3	11.3	11.3
Engineering	13	8.1	8.1	19.4
Mathematics	6	4	4	34.7
Chemistry	3	0.12	0.12	34.82
Computer Science	3	0.12	0.12	34.94

Table 16 **What is your overall TAMIU GPA?**

	Frequency	Percent	Valid Percent	Cumulative Percent
Less than 2.0	2	1.3	1.3	1.3
2.0 -2.49	12	7.5	7.5	8.8
2.5 – 2.99	37	23.3	23.3	32.1
3.0 – 3.49	54	34	34	66.1
3.5 or higher	53	33.3	33.3	99.4
Total	159	100.0	100.0	

Table 17 **Which Ensemble had the Higher GPA?**

	> 2.0	2.0-2.49	2.5-2.99	3.0-3.49	3.5 and higher	Total
Band	1	9	18	35	32	95
Choir	0	2	12	8	11	33
Flute	0	1	0	0	0	1
Guitar	0	1	1	1	1	4
Mariachi	1	0	2	0	1	4
Orchestra	0	0	3	4	5	12
Piano	0	0	1	0	1	2
Total	2	14	37	54	52	159

Table 18 **UISD vs. LISD. Who had the Higher GPA?**

	> 2.0	2.0-2.49	2.5-2.99	3.0-3.49	3.5 and higher	Total
United	0	1	8	10	7	26

(Table 18 continued)

United South	0	1	4	8	4	17
Alexander	0	3	4	6	2	15
Lyndon B. Johnson	0	1	1	1	6	9

Nixon	0	0	7	11	4	22
Martin	2	2	2	3	1	10
Cigarroa	0	1	3	4	6	14
Early College	0	1	1	3	1	6
N/A						40
Total	2	10	30	46	31	159

Table 19 **Laredo High Schools vs. Non-Laredo High Schools.**

	> 2.0	2.0-2.49	2.5-2.99	3.0-3.49	3.5 and higher	Total
Laredo	2	10	29	46	29	116
Other	0	4	5	6	6	21
N/A						22
Total	2	14	34	52	35	159

Table 20 **Musical vs. Non-Musical GPAs**

	> 2.0	2.0-2.49	2.5-2.99	3.0-3.49	3.5 and higher	Total
Musical	2	12	37	54	53	159
Non-Musical	5	27	79	138	106	355
N/A						31
Total	7	39	116	192	159	545

VITA

Vanessa Lynn Almaraz, was born in Laredo, Texas, and graduated high school from Stamford Jr. Sr. High School in Stamford, Texas in 1997. In the fall of 1997, she began her college career at Abilene Christian University in Abilene, Texas. In 2000, she transferred to Texas A&M International University (TAMIU), in Laredo, Texas and majored in Music with a focus on Voice and in 2005, graduated with a Bachelor of Arts degree in Music with a Minor in Studio Art from Texas A&M International University. During her years as an undergraduate, she was a member of several school organizations and musical ensembles, such as the TAMIU Opera Workshop, TAMIU Chorale, Art Ink, and the Laredo Philharmonic Chorale. As a graduate student, she became a member of the International Honor Society for Sociology called, Alpha Kappa Delta in the fall of 2012. Currently, she is in her 10th year as an employee of Texas A&M International University and is currently the Staff Advisor for Maroon Rhapsody, the schools glee club. She will be graduating in the spring of 2014 with a Master of Arts degree in Sociology with a Minor in Curriculum and Instruction with hopes of continuing her education in the future.

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