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**CAN PERFORMING AND LISTENING TO MUSIC HELP REDUCE STRESS
IN AN ELEMENTARY CLASSROOM DURING A PANDEMIC?**

by

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Introduction

In my five years of teaching in a general music elementary classroom, I've seen music connect with students in many different ways. I have seen music energize unmotivated students while they were performing warm-up activities that focused on steady beat. I have seen music build focus and discipline in students while they were practicing songs for school performances, and I have even seen music become so powerful it brought students to tears during a social emotional learning (SEL) listening activity. From these experiences, there is no doubt that music has a way of communicating to the inner parts of our being and our emotions.

According to Plato, music or *mousike* was a means of curing the soul through understanding our emotions (Fletcher, et al., 2010). It was studied for its communicative properties and its ability to affect listeners through mind and body. In many hospitals around the United States, music is used to calm patients and reduce nausea during chemotherapy treatment. It can be soothing and comforting to the listener during a stressful time. It is for this reason that I wholeheartedly believe performing and listening to music can have a positive effect in an elementary classroom during this pandemic.

Working at the American School Foundation of Monterrey for the past three years, I have seen and lived through what one could consider a “stressful time”. In March of 2020 during the early stages of the pandemic for Monterrey, tons of questions were being asked after we shut down our school. As educators, we were forced to adapt and think on the fly when it came to how to teach and how to collect assessments. At the top of every administrator, student's, and educator's mind, the lingering question of “What were we going to do if school stayed this way?” brought so much doubt and uncertainty. And of course with all of this uncertainty, came stress. Seeing this stress throughout distance learning and during our return to campus in January

of this year, I thought about music and how it could serve as a way of helping students feel more connected and comfortable at school. Could music help reduce stress in my classroom and help students feel happier at school? If music was performed during our music classroom, could it have helped bring a feeling of normalcy? Did music have the power to help change a student's attitude or mood this year? My research primarily focused on how music impacted second and third grade students during their music class here at the American School Foundation of Monterrey (ASFM). ASFM is a private, nonprofit, international school in Monterrey, Mexico that has a student population of 2,404 students attending from Nursery to Grade 12. It is a school that emphasizes English in everyday instruction and provides an American school-type setting for international and Mexican students. At ASFM, I have looked to answer these questions from my research and I have gathered data to support my belief that performing music this year has had an impact on my students' mood.

Review of Literature

According to the American Psychological Association, nearly 8 in 10 adults (83%) said that the coronavirus pandemic and the future of the nation had a significant source of stress in their lives. When considering the physical and emotional toll of increased stress, nearly half of adults (49%) reported their behavior was negatively affected. (American Institute of Stress, 2022). If these adults were feeling this stress, one can only imagine how children or students felt. Upon gathering these statistics about stress, I started to focus on the many aspects to understanding the importance of music and how it could help regulate stress in the classroom. There are many benefits of having music in the classroom and these benefits are of main importance when it comes to exploring and reviewing the literature found in this research. In an

article titled “Is it me or the music?”, several psychological, neurological, and biochemical pathways are involved in processing and responding to music and some of these capture quite well the stress reduction effect of music (Baltazar, 2019). Music has a natural way of helping us connect to our emotions, and as we respond to it, it changes us. Furthermore, in the study Baltazar and his colleagues found that a framework, called the BRECVEMA framework, was a way to look into how music communicates to emotional reactions in the brain. Under this framework, the study design contained two blocks that measured stress induction and music stress regulation. There was an online survey and pre-screen questionnaire issued to participants in phase 1 of the experiment. In phase 2, the 35 participants between the ages of 19 and 44 were induced through heat-based pain and a decision-making task (block 1).. This lasted for 60 seconds and then they moved on to the second block which was the musical stress regulation stage. Here the participants were asked to follow instructions or a strategy on a card that was personalized for them based on their responses from their survey in phase 1. They were asked to listen to the music for approximately three minutes focusing on the instructions on the card (e.g. “Let yourself be immersed by the lyrics and rhythm of the song”). An important aspect of this study is that most of the participants had music education at school up until high school and two participants had formal music education outside of school curriculum. In conclusion of this research and from the data, there was a reduction of acute stress when the music was perceived as effective in connecting with the listener.. The data also showed that an “adequate” strategy issued from the card during the experiment had considerable effect on the listener’s in combination with music. Therefore both the adequacy of the music and the adequacy of the strategy had a combined affective significance of stress reduction. In addition to reducing stress, there are many beneficial effects to learning and performing music. According to Alcaraz in her

study “Bringing Music Back into the Classroom and its benefits on Elementary School Students”, music has a major impact on student’s cognitive, social, and emotional development. She found that the auditory systems of students in music education programs were maturing faster than students who did not take any music (Alcaraz, 2019). In addition, music classes allow students the chance to be expressive, creative, and collaborative which are all great qualities that help them to improve their self-esteem and become happier with who they are. In this research, we will explore data that will show if students at ASFM feel the same way.

Research Purpose and Questions

Purpose

The purpose of this study was to identify the effects of performing and listening music and what impact it has on elementary grade students during their music and homeroom classes at American School Foundation of Monterrey. During the past two years, stress appeared to be high due to the pandemic. With the collection of this data, it was possible to determine evidence and a conclusion that supports the belief that music can have an impact on a student’s well being during a pandemic.

Question

1. Can performing music in the music classroom reduce stress and help improve student’s moods during the day during the pandemic?
2. Can listening to music in the classroom improve students’ anxiety or stress in the homeroom classroom during the pandemic?

Hypothesis

H1. Performing music in their music classroom during the pandemic can help student feel more connected and comfortable with their environment.

H2: Listening to music in their homeroom class during the pandemic can help reduce stress or anxiety in the classroom.

Definition of terms

For the purpose of this study, the following terms will be defined as:

Variables:

The dependent variable are:

- Stress

The independent variables are:

- Music from several genres (pop, classical, etc.) played during reading or independent work time in the homeroom classroom.
- Folk song arrangements that students will perform during music class for their end of year performances.

Performance: any activity or collection of responses that leads to a result or has an effect on the environment. The behavior of an organism (the performer) when faced with a specific task.

Orff arrangement of music: an arrangement of music that is designed to have students divided into groups that will perform different parts of music on different instruments. Instrument groups are as follows: percussion or drums, xylophones, ukuleles or sometimes recorders.

Stress: the physiological and psychological response to internal and external stressors. Stress involves changes affecting nearly every system of the body, influencing how people behave and feel. For example, it may be manifested by palpitations, sweating, dry mouth, shortness of breath, fidgeting, accelerated speech, augmentation of negative emotions, and longer duration of stress fatigue. (APA Dictionary of Psychology)

Music: sounds that are arranged in a way that is pleasant or exciting to listen to. People sing music or play it on instruments. (Oxford Learner's Dictionaries, 2021).

Data Collection Plan

For this research, I collected qualitative and quantitative data. A pre-study stress survey was conducted at the beginning of the year in October for students in grade three currently enrolled and attending class on-campus at ASFM. This survey consisted of general questions about how each person feels about being back in school and if there was any concern or stress due to their return. From this data, I created pie charts that highlighted and showed the overall sentiment of students from grade three who were primarily involved in the study.

As part of the second phase of the research, individual teacher interviews were conducted in May to gather more information or to determine if music has had any noticeable effect on stress levels throughout the year.. In the final phase, a post-stress survey was issued to the same students in grade three. Closer to the end of the year at the end of May and early June, another survey was conducted to gather the remaining quantitative data that will show if there was any impact in grade 2 students who performed music during their music class this year.

Based on the observations, interviews, and certain survey questions, data was analyzed to show the effect music has had on creating a happier, more stress-reduced environment here at ASFM.

Instrument

In October, a pre-study survey or initial stress test was administered at the beginning of the year. General questions were asked using a Likert system rating from one to three. The number one stood for “does not bother me at all”, the number two stood for “makes me feel a little uncomfortable”, and number three stood for “makes me feel anxious or stressed”. The questions that were asked were as follows:

1. Knowing that the pandemic still exists, being in this classroom with other students and teachers makes me feel...
2. If someone is not wearing their mask in the classroom, it would make me feel...
3. Sharing other materials or equipment in class makes me feel..
4. Overall, coming back to school makes me feel

In May, a stress survey was conducted involving fifteen different teachers from grades one through five. These questions were as follows:

1. Looking back at the beginning of the year, could you say you were stressed?
2. How stressed were you in January knowing we were going to return to campus?
3. Can you remember a time where you noticed a student expressing concern or stress whether during distance learning or in-person?
4. Did you play music in your classroom this year during a time you wanted the class to relax?
5. Do you think this helped calm your students?

6. Overall, do you think you and your students' stress level has improved at this point in the year?

At the end of May and in early June, a post-study survey was conducted with grade three students with the following questions:

1. When my teacher played music in my homeroom classroom, I felt more relaxed and focused.
2. When I played instruments in my music classroom, I felt...
3. Did playing and listening to music in my classroom this year help you feel more comfortable and less stressed at school?

Additionally, a survey was given to grade two students using a likert scale to ask general questions about how they felt after performing music in their music class.

1. How do you feel after playing music?
2. Did playing music change your mood today?

Timeline

August 2021 - September 2021

Inform administration, parents, students and teachers of the research.

If permission was needed, I would send and receive consents during this month.

October 2021 - November 2021

Conduct pre-study stress survey for third grade students

November 2021 - December 2021

Analyze the data. Create bar graphs of collected data and create a plan or schedule to observe and interview selected students and teachers in the second half of the school year.

April 2022 - May 2022

Observe and interview selected students and teachers. Collect, analyze, and document data.

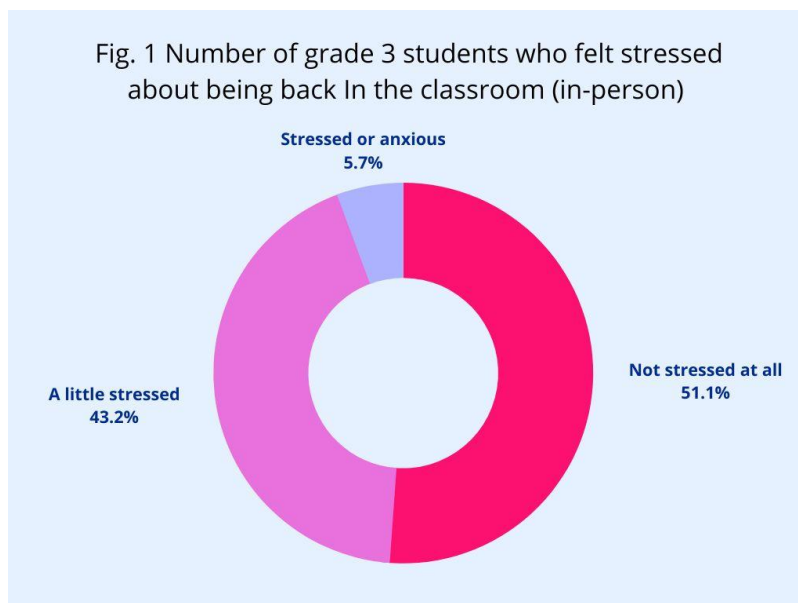
May 2022 - June 2022

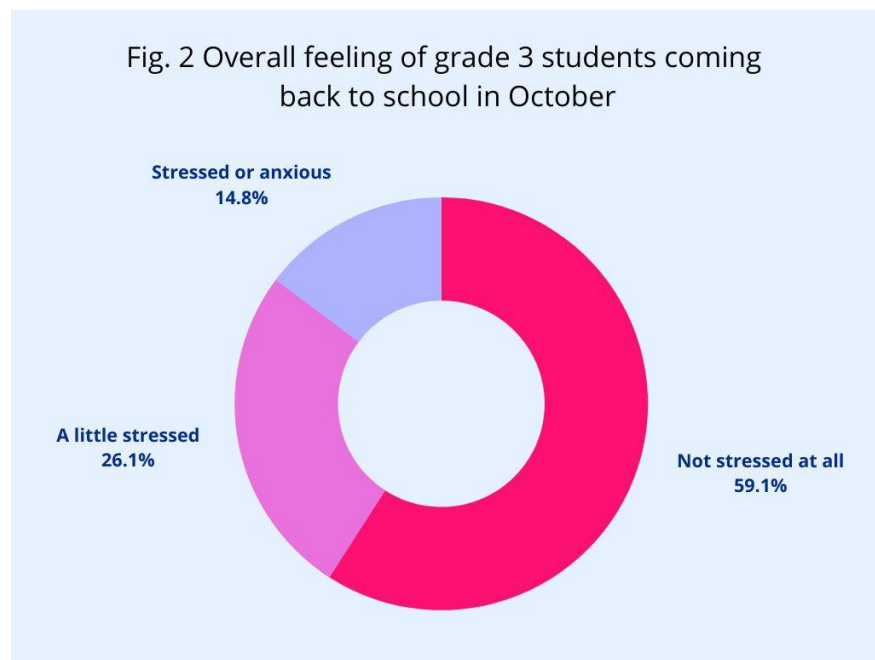
Conduct post-study surveys and create a stacked bar graph to show the difference from the beginning of the year.

Write a report on the entire collection of data and draw conclusions from my analysis.

Data Collection Plan

In my research, I analyzed the pre-study surveys and generated bar graphs of the results to show the initial feelings and concerns of grade 3 students returning to school from the ASFM community. In Fig. 1 and Fig.2, you can see the majority of students in the study appear to have been not too worried or concerned about the pandemic or returning to school. This later would cause me to shift my shift which I will explain later. In the second part of the study, I conducted





individual interviews and a post-survey at the end of the year in late May/early June to provide more data for my research. Over 140 grade two students (84%) circled the answer “playing music made me feel good today” when they were given a survey shortly after performing Orff arrangements of music in their music class. When asked if music changed their mood or made them feel happier after performing music, nearly the same number of students (85%) said “Yes' ". This likert survey was conducted to show the sentiment of students in grades 2 and how they felt after performing music in their music classroom. In Figure 3 and 4 in the next page, you can see pie charts of the results from this survey.

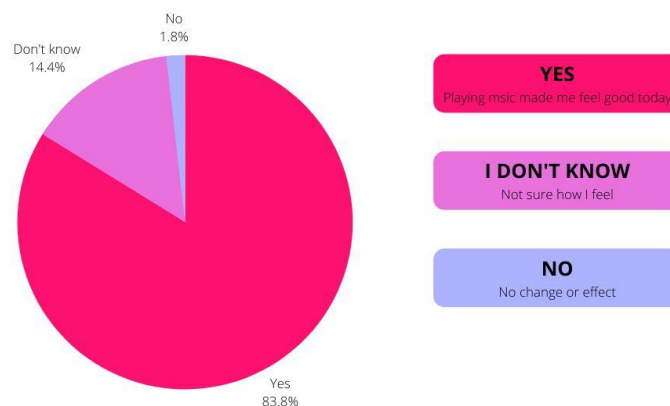


Fig. 3 How did you feel after playing music?

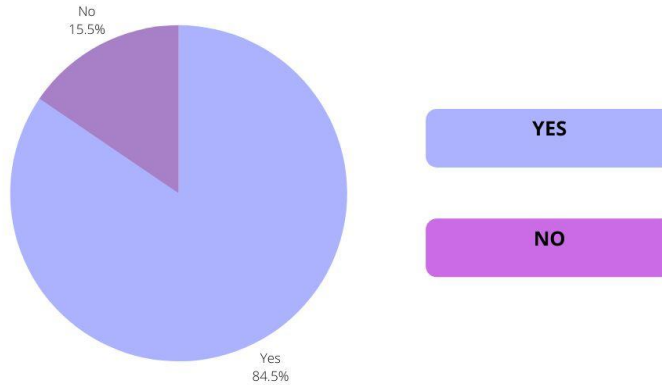


Fig. 4 Did music change your mood today?

At the end of the year, students in grade 3 were then given one last survey. The results showed that when grade 3 students performed music in class roughly 75% felt happier or felt that music helped them feel more comfortable or less stressed. Figure 5 displays these results. Around this time, teachers were also given an end of the year stress survey to gather more data for this study. Out of the sixteen teachers that were interviewed, fifteen teachers reported to have used music in

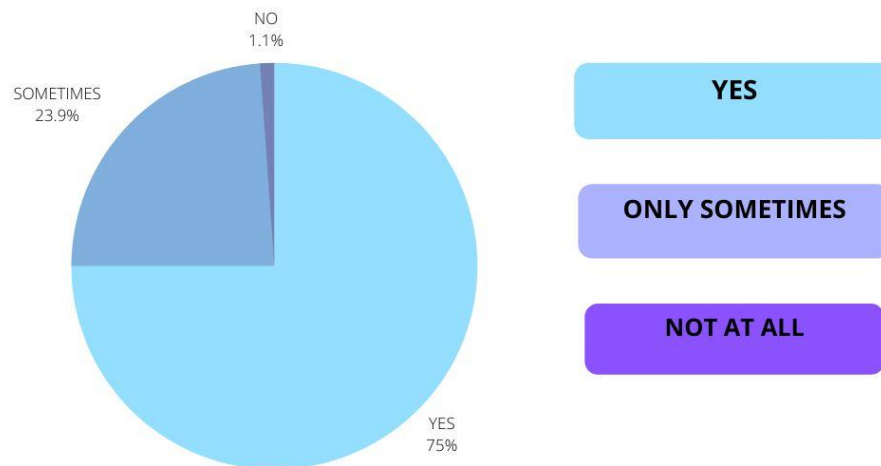


Fig.5 Did playing and listening to music this year help you feel more comfortable and less stressed at school?

their classrooms during “quiet time” or reading time in their regular school days. Based on their observations, they confirmed that it did help create a calmer, more relaxed classroom for their students. Only six out of the eleven teachers responded that there was significant change between the overall stress level of their classrooms from the beginning of the year to the end.

Contrastingly, it was very interesting to see the response of the teachers when asked how stressed they were in October when we were going back to teach in-person. Eleven out of the sixteen teachers said that they were only “a little bit” stressed during that time and said they were more excited about getting back to teach in the traditional classroom setting.

Therefore, the results of my research indicate the following:

Hypothesis 1: Upon observing the quantitative data, performing music during the pandemic in their music classrooms helped students feel more comfortable and stress-free.

Hypothesis 2: Upon observing the qualitative data, listening to music in the homeroom classroom helped students feel more comfortable and stressed during the pandemic.

Other Project Considerations

My initial goal was to compare the results of the pre and post-study surveys and document them in a stacked bar graph to show differences between the beginning of the year and end. However, I felt there was a different feeling about the pandemic in the second semester of the school year and directed a focus more to student sentiment after performing in the classroom. With this research project, I hoped to reveal the benefits of listening and performing music throughout the day. My prediction was that music would signal a bit of relief for the students and teachers throughout the regular school day and provide a bit of normalcy. I found listening to music helped create a calmer environment in their homeroom classrooms. In addition, I thought

of how performing music could also serve as a tool for providing more meaningful, enjoyable experiences for the students in grades 2 and 3. I felt this could help reduce stress as well.

One of the biggest challenges I believe I had was figuring out how to plan a successful way of having teachers play the listening music during their classroom instruction time. I initially thought of asking them to play music during “quiet time” or reading time but in the end I surprisingly came to find that most were already doing this anyway since the beginning of the year. The real challenge of this listening part of the research was trying to find a time to observe and take notes of each class. According to my schedule, this was feasibly impossible and therefore I had to change this process and trust the teachers selected for this research and their observations. There was also the thought of making sure that the data I was collecting was quality data and that the students were being honest with their answers in the survey. Lastly, I believe another major challenge was making sure that I created enough impactful, music experiences for students while my biggest concern was that there would be no effect because of another shutdown at our school. Thankfully, I was able to provide musical experiences in grade 2 and 3 by the end of the year and therefore feel this ultimately helped with the data collection.

Conclusion

This research project was limited to only second and third grade students and teachers in several grade levels here at ASFM. Although the research consisted of roughly 271 participants, only 88 students and 16 teachers were selected for interviews. This project could potentially be carried out within more grade levels or classes. If this research was reviewed and revised at a later time, the overall goal in the future would be to gather more participating classes in other

grade levels, measurable devices for stress if possible, and I would highly suggest having observations in the homeroom class during the listening portion of the research.

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