

The Relationship Between Different Genre of Music and Academic Process

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Objective

Music has become an integral part of the spiritual life of young people, especially in the second half of the 20th century. As known, music is the art of using sound to express emotions; therefore, the connection between music and how the brain works has been one of the topics that generated a lot of attention in recent years. In the studies of Sacks (2006), a famous British neurologist, he conducted an experiment to understand the effects of music on young people in a learning environment; he concluded that with background music, it often helped people relax comfortably and work productively (Sacks, 2006, p. 2528). As the study goes on, it raised a question that if the music really helped one study better, do the genre of music matter? And how does each genre of music affect the learning outcomes?

Literature Review

Lesiuk (2005), a professor at the University of Western Ontario in the school of Systematic Musicology, concluded that while listening to one's favorite music while they work, their mood will improve. She explained that listening to music helps people stimulate the brain's center of excitement. Stimuli will then spread from the ear canal, through the limbic system and directly to the orbital frontal cortex, which is responsible for thinking and decision making. The results from stimulating this area will greatly improve their creativity (Lesiuk, 2005, p.177). This explains that when one hears a fast or slow music beat, their heartbeat will likely synchronize with the music beat. A slow heartbeat is linked to slow breathing, and this will possibly trigger

the relaxation response. In other words, the music genre may have greatly affected the body reaction and affect the learning process.

Problem

Currently, when the music market is changing every second, more and more different types of music are introduced; each type of music will then have its own characteristics and will attract its own fan base. Then to make Dr. Lesiuk's research more practical, the question will have to change to what kind of music is suitable for the learning environment. In the study of Mauch, MacCallum, Levy, & Leroi in 2015, with the rapid development of high technology such as radio, television, and the internet, the boundaries between music platforms are changing over time. Some music genres are dying out because of the lack of popularity, or some music genres were invented from cross-cultural differences (Mauch et al., 2015).

The independent variable for this study will focus on two genres of music: orchestra and rock. Orchestra is a combination of musical instruments used in accordance with certain principles for the performance as a symphony. Orchestra music was formed in the 17th century through the works of Mozart and Beethoven and gradually developed as classical orchestra music. In this study, orchestra music will be classified as a genre using instruments only, for example viola, violin, cello, flute, basses. On the other hand, rock is a powerful, fast-paced music. The genre of rock is a fast, exciting, and emotional combination of singer's internal vocal and its characteristic sound is the electric guitar and bass drum. In this study, rock music will be classified as a genre using strong vocal with instruments like electric guitar and bass drum as background music. The independent variable will be measured by the participants actually listen to the music while studying.

The dependent variable will be the academic outcomes of the participants. Grading will be taken on the scale of Grade Point Average (GPA). First, GPA is used throughout the United States, therefore this will make the process of collecting data much easier. Secondly, GPA is one of the most equitable systems because it is the sum of the average of all classes taken by the participants, not just one subject. Therefore, using GPA as a dependent variable will show fairness and will be reasonable in the study.

Subject for Study

Choosing samples may be the most important factor in the whole research study because the chosen sample will be representing the whole population. The participants in this study will focus primarily on high school students. All participants will be chosen randomly from ninth grade to twelfth grade; age range is between thirteen to eighteen-year-old. The amount of male and female students must be equal. Participants will be collected as ten random students from all public high school of Chesapeake. It is important to make sure the participants are from all races because it is essential for the fairness of this study. Some other factors should be considered such as students' current grades, family income, attitudes toward the study. Students' current grades will help determine if this study is helping their academic process or not. Family incomes are important because it represents what kind of extra resources participants received and therefore affecting the results of this study. Attitudes toward this study are extremely important because it shows the participants' willingness to change their academic process, that is why all students should participate in the study voluntarily.

Method

This study will be a double-blind experimental study, therefore after all the participants were chosen carefully, they will be randomly separated into three groups: one will mainly listen to orchestra music when study, one will listen to rock music when study, one will have no background music at all (control group). The researcher will not know which students are from which group to keep the study fair and no bias involved. Students will not be informing the real purpose of the study in case of Hawthorne effect will happen to the students. According to Sedgwick (2012), the Hawthorne effect happened when people act differently because they know they are being watched by an authority (2012). Therefore, if students know the real purpose of this study, the results may come out different than the real result could have been.

The experimental process will follow the sequence as follows: Participants will be required to study in the room with their group in a special room, with reasonable music volume background, and realistic hour of study. To answer the question of how many hours of study subjects may need a day in this research, a survey done by the University of Phoenix has the answer. According to Polls (2014), high school students averagely spend 17.5 hours a week to study and do homework for five subjects, anything more than that will make students overload and burn out from all the information (Polls, 2014). If divided equally 17.5 hours for 7 days, students then many studies at most 2.5 hours a day. Considering the ethical issue for both mentally and physically of all the participant, subjects will study 2.5 hours a day in a room with their music group.

In each of the 2.5 hours per day study session, each group of students will be placed in a room (called self-study room), where students are free to use their own methods for studying/

doing their homework according to their own needs. In order to create a comfortable space, the library will be chosen to be the self-study room, where the music will be turned on at an appropriate-reasonable volume and not too loud. However, the music volume also must be loud enough for the students to recognize there is music playing, in that way researchers will be able to analyze if the music study is actually working.

Data Collected Plan

Ordinary, Virginia public schools will have two semesters, each semester is consisting of four quarters. To make the process of selecting participants and gather information easier, this study will start at the beginning of the school year. The first two quarters will be the time for the participants to sign up for the study (because this study is absolute voluntary). After the sign-up deadline, researchers will randomly select suitable candidates for the study. As mention in Section 2, the study will choose ten students from each high school of Chesapeake. This city has total 7 public high schools; therefore, the total number of participants will be 70 totals. Within the first two quarters, the researcher will collect and analyze participants GPA for the use in comparison before and after the study. The last two quarters is when the actual experiment occur, participants will be secretly monitored during self-study session. Due to the fact that this is a double-blind study, researchers are not allowing to know which students are from which group, therefore the process of monitoring participants while they study in the self-study room will be completed by a third party – the librarian of the local school.

Data Analysis

By the end of the semester, participants' GPA will be once again collected and will be comparing from quarter 1-2 versus quarter 3-4. Participants' GPA can be changed in three different scenarios: positive change, negative change, and no change. According to Lehmann & Seufert (2017), people will give a better response with no music background/ instrumental music background then lyrics music background. They further explained that "it is impossible not to process auditive information" (2017). Therefore, if a human is listening to music with lyrics, then their concentration will be shifted and will lose focus on studying. Thus, this study predicted the group with positive change will be the group of students who listened to orchestra music, the group with negative change will be the group of students who listened to rock music, and the group with no change in their GPA will be the group of students who do not listen to music.

The question here now is how much change will be considered as a change. The researcher wants the change to be significant differences between the grade to prove that listening to music is actually the stimulus contributing to the academic change. Therefore, in this study GPA must be increased or decreased by at least 0.75 to be considered a changed. For example, a participant GPA in the first two quarters is 2.67 (which is equal to a B-), an increase of 0.75 will be required to be considered as a positive change. Which meant by the fourth quarter, that participant's GPA must be at 3.42 (which is equal to B +). On the other hand, if that participant's GPA dropped to 1.92 (which is equal to C-), then it will be considered a negative change. Changed of GPA under 0.75 will be considered unchanged.

Conclusion

This is a social study proposal plan to investigate the relationship between different music genre and the effects on academic performance. The researcher predicted that orchestra music group will perform better than rock music group because as studies have shown listening to orchestra music will help the brain process information better than listening to music with lyrics. In addition to that, the orchestra music group may perform equally or better than the control group, however not worse. By that mean, rock music group will have that worst among the three group. If the results come back positively, (orchestras music help to produce better study results), then one can retest this hypothesis on a greater scale and confirm the theory. A new law like orchestra music background is required to be played in the classroom and library in a specific time can be pass out. At first, it will only be testing in a small city, and then can be distributed across Virginia and if successful, this new law can be used extensively throughout the United States.

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