

The Effects of Musical Genres on Emotion

Michael Li

Lakeside School

ABSTRACT

The purpose of this research was to establish a connection between a specific genre of music and the emotions they elicit in listeners. The study included seven genres, musical theater, African tribal, pop, jazz, Chinese folk, sitar, and classical. After listening to each piece participants were asked a series of questions including their emotions when listening to it, if they enjoyed it, and if they recognized it in hopes of answering the question “How do different genres of music affect people’s mood after listening?” The participants’ responses showed that in general, listening to music would elicit positive emotions no matter the genre. Additionally, pieces that elicited more powerful reactions from the listener correlated with how enjoyable the piece was. Overall, the results of this study highlight how individuals can potentially alter their mood by enjoying music from different genres and by being aware of the factors in music that go beyond just the genre.

Introduction

Music is something many people listen to every day, whether to experience some emotion, distract themselves, or focus better. It has a clear affiliation with one’s mood; this study is to establish the connection between each genre of music, and the specific emotions they provoke. Mental health is also something that plays a big part in everyone’s lives, and music may be something that affects that. People can listen to music to change their moods, but this study is to help understand specifically, how music can change their moods.

The purpose of this research study is to establish a connection between music and the listener's mood. A study by Yading Song, Simon Dixon, Marcus T. Pearce, and Andrea R. Halpern researched the difference in perceived and induced emotion in different music. My study focuses on the perceived emotion within the listener, rather than the artist’s emotion they are trying to convey. A study done by William M. Randall and Nikki S. Rickard studied how portable music on a phone or mp3 player could affect one’s mood. My study differs from this in the fact that instead of giving the participants a choice as to when to listen to music, the choice is eliminated, and this may affect the outcome of their emotional response.

The research question being answered is “How do different genres of music affect people’s mood after listening?”

Methods

For this study, six shorter 60-90- second pieces and two longer 2-3-minute pieces were selected. These pieces included a musical theater ballad, an African tribal piece, traditional “pop” song, a jazz show tune, a Chinese folk song, a sitar piece, and two classical extracts. The pieces selected were as follows:

“Suddenly Seymour” from *Little Shop of Horrors*

<<https://www.youtube.com/watch?v=9DD7VIKZnGA>>

A Zulu tribal dance song <https://www.youtube.com/watch?v=HxhhF_nHxIs>

“Rain on Me” by Lady Gaga and Ariana Grande

<<https://www.youtube.com/watch?v=AoAm4om0wTs>>

“All that Jazz” from *Chicago* <https://www.youtube.com/watch?v=J_YaxIL8MvM>
 茉莉花 translated to Jasmine Flower <<https://www.youtube.com/watch?v=y7hdZ5rYd2E>>
 A Sitar Piece played by Ravi and Anoushka Shankar <<https://www.youtube.com/watch?v=IIQrUZLyATo>>
 The two longer pieces were both classical extracts.
 Rachmaninov 2nd piano concerto 1st movement <<https://www.youtube.com/watch?v=rEGOiHjqO9w&t=152s>>
 Beethoven’s 5th symphony <<https://www.youtube.com/watch?v=fOk8Tm815IE&t=169s>>

The questions included a short preliminary survey. Subjects’ identities were anonymized using a numbering identification system. Preliminary survey assayed subjects’ ethnicity/nationality, because a person’s culture may also affect their perception of different music. Additionally, subjects were asked about their favorite genre and if they have experience performing music, as those are also factors that may also affect their responses.

Subjects were then asked to answer a series of questions after listening to each musical extract. These included:

How did the music make you feel in 5-6 words? It was limited to a few words to get a simple quick reaction to the music. As long descriptions would be much harder to decipher and turn into quantitative data.

How long the emotion would last was also a question to be answered; however, that wasn’t something easily asked because the participants were listening to each of these in rapid succession, so the strength of the emotion was surveyed instead because a strong emotion is more likely to last a longer time than just a weaker feeling. Finally, for each piece, they were asked if they enjoyed the piece because that could also affect their response, and if they recognized the piece because they may be able to associate it to older memories that affected their response if the answer was yes. Each of the 6 teenage respondents answered these questions.

The trial was designed to take 30 minutes per participant. Each question was to be filled out immediately to capture their automatic response. This would be repeated for each of the 8 musical excerpts.

A very similar study was conducted called, “Perceived and Induced Emotion Responses to Popular Music: Categorical and Dimensional Models” By Yading Song, Simon Dixon, Marcus T. Pearce, and Andrea R. Halpern.

Their experiment was very similarly structured to this one, the instructions read:

“First, the participants were asked to read the instruction page:

1. Listen to the songs (they will last either 30 or 60 seconds);
2. After listening, for each piece please choose one of the following: happy, sad, relaxed, angry, or cannot tell/none of the above.

Note: participants were asked to answer one of the two questions (condition ‘induced’ and condition ‘perceived’)” (Song, Dixon, Pearce, Halpern 476).

Results

The following tables show participants’ words when describing their emotions for each piece. The question asked was “How did this music make you feel?”

Table 1. Responses from participants for piece 1 “Suddenly Seymour”

Response 1	Response 2	Response 3	Response 4	Response 5	Response 6
Happy	Happy	Annoyed	Hopeful	Rejoiceful	Nostalgic
Carefree	Intrigued	Bored		Happy	Calm
Warm					Sad
					Hopeful

Table 2. Responses from participants for piece 2 African Dance

Response 1	Response 2	Response 3	Response 4	Response 5	Response 6
Excited	Energized	Confused	Confused	Far Away	Confused
Nervous	Upbeat	Empowered	Energetic	Anticipation	Overwhelmed
Heroic					

Table 3. Responses from participants for piece 3 “Rain On Me”

Response 1	Response 2	Response 3	Response 4	Response 5	Response 6
Empowered	Pleased	Excited	Energetic	Party-like	Energetic
Carefree	Cheerful	Happy		Disco	
				Excitement	

Table 4. Responses from participants for piece 4 “All that Jazz”

Response 1	Response 2	Response 3	Response 4	Response 5	Response 6
Fun	Lively	Excited	Energized	Funky	Energetic
Intrigued	Sprightly	Jolly		Curious	Cheerful
		Super upbeat		Joyful	
		High energy			

Table 5. Responses from participants for piece 5 “茉莉花”

Response 1	Response 2	Response 3	Response 4	Response 5	Response 6
Nostalgic	Inattentive	Calm	Nostalgia	Calmness	Confused
Warm	Impressed	Slower	Wonder		Calm

Table 6. Responses from participants for piece 6 Sitar

Response 1	Response 2	Response 3	Response 4	Response 5	Response 6
Mysterious	Calm	Relaxed	Calm	Bizarre	Weird
Intrigued	Apathetic		Meditative	Far-away	
			Worship-y	Anticipation	

Table 7. Responses from participants for piece 7 “Rachmaninov 2nd piano concerto 1st movement”

Response 1	Response 2	Response 3	Response 4	Response 5	Response 6
Bittersweet	Introspective	Bored	Excited	Agitated	Hooked
	Focused		Adventurous	Vengeful	
			Dramatic	Powerful	
				Melancholy	
				Beautiful	
				Thoughtful	

Table 8. Responses from participants for piece 8 “Beethoven’s 5th Symphony”

Response 1	Response 2	Response 3	Response 4	Response 5	Response 6
Suspenseful	Tuned Out	Excited	Anger	Vengeful	Nostalgic
Anxious	Attentive	Grand	Determination	Angry	Happy
		Epic	Eventual Victory	Calm	Energetic
				Suspenseful	
				Joyous	

Table 9. How many participants recognized each song.

Piece 1	Piece 2	Piece 3	Piece 4	Piece 5	Piece 6	Piece 7	Piece 8
3	0	4	0	2	0	1	6

Out of the participants sampled, most participants recognized about half of the 8 pieces. One of the pieces all the participants recognized, while three of the pieces none of them recognized.

Discussion

After compiling the results, there were quite a few trends appeared. To start, the emotion words each of the participants entered were put into positive, negative, and neutral categories. However, this study has a very limited sample size, and it must be acknowledged that the results could be influenced and skewed by these factors. All the participants surveyed are relatively the same age, and all live in the same area of the world. The musical excerpts used also do not represent every single genre of music, and although it is a diverse sample, it is not a complete sample.

From the previous section, words like “Excited”, “Happy”, and “Relaxed” are categorized under positive emotions, “Bored”, “Apathetic”, and “Annoyed” are negative, and words like “Far-away” and “Slower” are neutral words.

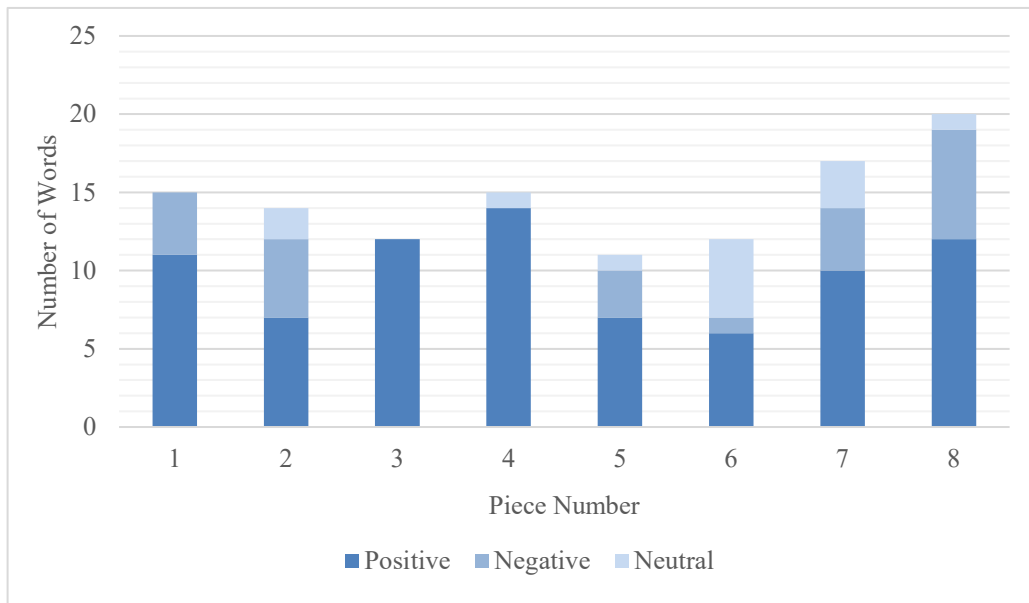


Figure 1. Number of positive, negative, and neutral words used to describe each piece. Each piece has most positive words being used to describe the emotions felt. When colors do not show up on the bar, the number of words in that category for that song is zero. Each bar is the combined results of every participant’s response.

This chart shows that most words used to describe the pieces, in general, were all positive words, even though many of the pieces were not happy. The positive words ranged from happy and energetic to relaxed and nostalgic. The negative words ranged from agitated and annoyed to melancholy and confused. This graph suggests that, listening to music will invoke mostly positive emotions or, at the very least, will not evoke strong negative emotions no matter the piece's mood or genre. This brings up the question, what kinds of music invoke more negative emotions, like sadness or anger?

One study done by William M. Randall and Nikki S. Rickard found that no matter the music selection, the music would worsen the feeling, and invoke more negative emotions in the listener. This contradicts the results of this study, as this study found that most of the songs would invoke positive emotions and not negative ones. However, this may be because the aim of each study was quite different. Randall and Rickard’s study was to understand why people choose to listen to music personally and see what effects it had on their mood. Whereas this study is to see what emotions the music would cause. The choice and intention of listening to music incorporated into each study could be providing different results. Someone who is already in a negative mood may not want to listen to positive music to rectify their current mood, but instead may want to experience catharsis, and purge themselves of the negative emotions by experiencing them fully.

Another observation was with the type of responses the participants entered. Although the words everyone used were vastly distinct, for the most part, they could all be boiled down to 4 categories: the happy category, which included words like excited and happy. The sad category included words like melancholy or bored. The angry category with words like agitated or annoyed. And the calm category with words like relaxed and nostalgic. This may answer why different people are more attracted to different genres. As each genre invokes its own emotions, choosing different genres may be choosing different emotions. Genres for most people have a set kind of emotion being invoked, and people, desiring to feel specific emotions, will prefer certain genres over others. Something very similar was concluded in Song, Dixon, Pearce, and Halpern’s study; they also determined that the majority of the emotions evoked by music could be categorized into these 4 categories.

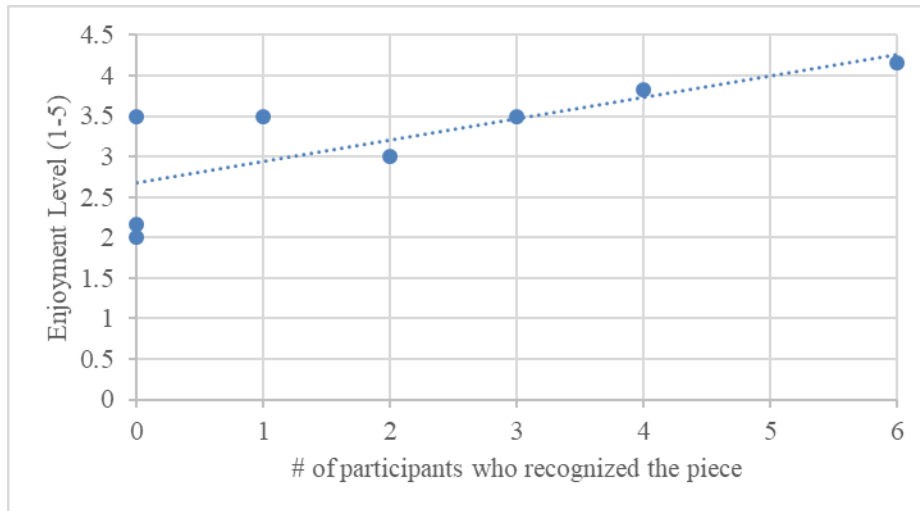


Figure 2. Enjoyment Level vs. Number of Participants who Recognized the Piece. Each blue dot represents one of the eight pieces. The enjoyment level is based on the mean of the ratings of the participants. A scatter plot showing the enjoyment level of each song correlated with the number of people that knew the song. If we look at the trendline, we can see that in general, the more familiar a person is with a song, the more they will like it.

Figure 2 has a very clear trendline and shows that the enjoyment of a piece and the strength of emotion from the piece are directly proportional. However, it is not easy to tell which causes the other. Does the enjoyment of a piece come from the emotions felt during the piece? Or do you feel very strongly during/about a piece because you enjoy it so much? Different genres of music may also be used for different purposes. For example, some genres of music are meant to be listened to and appreciated in a concert for example, while others are more suited for ambient background or atmospheric music. This could aid in answering the question of what genres of music people choose to listen to, and how that affects their mood. If someone were to want to experience some strong emotion, they could choose certain genres over others to accomplish what they want.

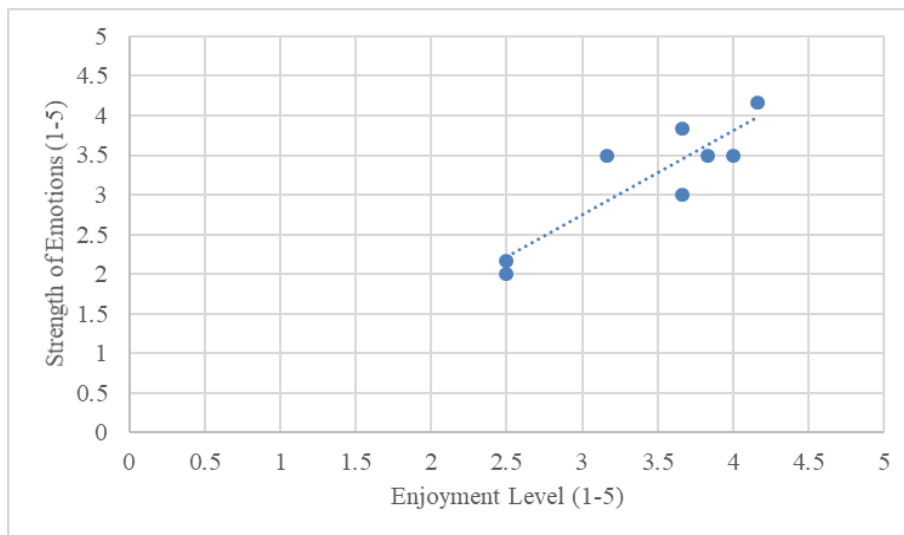


Figure 3. Average Strength of Emotions vs. Enjoyment Level. For each criterion, strength of emotion and enjoyment of piece, each participant rated each piece out of 5, and the mean of their scores was taken. Each blue dot represents one of the eight pieces.

There was a correlation between the speed of the pieces and the words used to describe them as shown in Figure 3. Generally, the slower the song, the more words like calm or nostalgic were used. The quicker the song, the more words like suspenseful and energized were used. This shows that there is also a correlation between the speed of the piece and the level of energy invoked within the listener. There may be a correlation between each genre and the words used to describe them. As genres are categorized based on the feel and style of the song, most genres would have a relatively consistent speed throughout the genre, making it logical that each genre invokes similar emotions within itself. Finally, within the two classical pieces, the words used were very empowering and high-energy. The strength of emotion that the listeners felt during the two pieces averaged 4 and 4.16 out of 5, showing that each participant felt strong emotions when listening to the pieces. This shows that music in similar or the same genres can invoke a similar strength of emotion. Further establishing that within each genre, the music, although different in melody and other specifics, provides a similar atmosphere.

Conclusion

The fact that subjects tended to use positively or neutrally oriented descriptors of emotion suggests that genre has a limited capacity to influence the degree of a listener's mood. For example, a classical piece might evoke melancholy, without evoking extreme sadness. Genres all evoke similar emotions within themselves. Each genre is separated so that the music in the emotion can give the listener a similar feeling in regard to positive or negative emotion, as well as energy level, and enjoyment. Randall and Rickard, however, found that their participants had an overall negative experience when listening to music; however, this was probably due to the differences in setup. Their study gave the participants choice in when and what to listen to, this study did not. More trials on why participants choose to listen to certain music may be able to explain if choice is the reason such opposing results were obtained. Song et al, found that each emotion could be put into one of 4 categories, happy, sad, calm, and angry. This study furthered their claim, as their study just gave the participants these 4 categories, whereas this study was able to put each of the participant's responses into the 4 aforementioned categories. This study found that within each genre of music, emotions invoked are relatively similar, having similar energy levels, as well as similar degrees and intensities. This study also found that generally, the emotions invoked by different musical genres are positive. People who listen to music will most often have a positive emotion invoked rather than a negative one no matter the artist's intention.

Acknowledgments

I would like to thank Lakeside school for providing me with resources and education to complete this study, Scholar Launch for giving me the opportunity to conduct research, Dr. Devin Parry for being my advisor on this project, Dr. Roger P. Worthington Ph.D. for his assistance in designing and carrying out the trial, Vanessa Braganza for providing me with feedback and editing my writing, and the participants in the study for thoughtfully listening to each piece and responding to each question.

References

- Randall, W. M., & Rickard, N. S. (2017). Personal Music Listening: A Model of Emotional Outcomes Developed Through Mobile Experience Sampling. *Music Perception: An Interdisciplinary Journal*, 34(5), 501–514. <https://www.jstor.org/stable/26417365>
- Song, Y., Dixon, S., Pearce, M. T., & Halpern, A. R. (2016). Perceived and Induced Emotion Responses to Popular Music: Categorical and Dimensional Models. *Music Perception: An Interdisciplinary Journal*, 33(4), 472–492. <https://www.jstor.org/stable/26417432>