

Analyzing Patterns in Music Composition Within the Film Industry

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Abstract

In this project, our group studied a variety of films by conducting an experiment that involved analyzing the relationship between emotions and sound within their studio productions. Before our investigation, the three of us turned to electronic research to gather a plethora of intel and insight on the “how’s” and “why’s” of human reactions. We then began our inquiry by selecting six films that are heavily concentrated in songs and background music scores. Each film has its individual signature from stylistic independent directors. By evaluating the music composition of the soundtracks that were paired with various attractive scenes, we organized the segments by genre and broke them down into four instrumental and lyrical components: tempo, timbre, sounds of dialogue, and tone of lyrics. Once we recorded and collected our data, we assessed our results and constructed a conclusion from the apparent patterns we observed. The reason we chose this project is due to our interest in the magical intricacies of the film and entertainment industry, as well as our curiosity about the question as to what triggers certain feelings and why we may experience them. Smaller projects such as ours can help instigate a gateway to future research for psychologists and scientists involved with neurological studies. Connecting senses such as sound with memory can influence new solutions to mental issues such as Post Traumatic Stress Disorder and Alzheimer's, or to increase success in interviews with impaired witnesses for state and federal justice cases. This project was very engaging and would be an inviting experiment for younger kids to participate in as well; studying a topic so big yet simplified into this all-inclusive basic procedure. Overall, we had a fun time interacting with this assignment and found our results incisive to analyzing film tactics.

Acknowledgements

We would like to express our special gratitude to our Chemistry Teacher Dr. Archuleta who allowed us to do this wonderful project. It helped us find results and research we never would have thought of before starting this project and made us learn new things that can be in music soundtracks.

Secondly, we would like to thank our partners who contributed to this project together to get our things done. We would also like to thank ourselves for finalizing this project within the limited time frame that was given to us and putting in the time and effort into it.

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Introduction

Question: How can the selection of soundtrack influence the emotion being portrayed throughout the film?

Purpose: The purpose of this project was to determine if the consistency in soundtrack selection of various music supervisors influences the emotional portrayal of certain scenes in films.

Hypothesis: If the soundtrack breaks down results consist of uniform characteristics, then we can conclude that general music composition within the film industry follows the same principal criteria regardless of its production studio.

Independent Variable: Movie soundtracks

Dependent Variable: Consistency of emotional portrayal

This project is important because we want to figure out if the entertainment industry incorporates the same audio and visual methods to specifically target the way we feel. Whether the music or soundtracks of such films makes people tremble or get goosebumps. We want to explore how soundtracks (such as in horror movies) exaggerate these said emotions to pull us into a further state than we are supposed to be in. The orchestration doesn't only affect our reactions, but it also helps the director to be able to set the tone of a scene in order to draw that certain response they were aiming for and ultimately provide emphasis on integral scenes. Thus, it allows the audience the ability to empathize with a character and temporarily place ourselves into their shoes.

Specific music compositions are able to impact society, music has been shown to influence our emotions and the way we feel. The technicalities of audio incorporated through multimedia-- such as radio music, television, or underscoring, makes society understand the experience and thought process of others, or even indulge in the state they want us to be in (Viewers' Interpretations of Film Characters' Emotions: Effects of Presenting Film Music Before or After a Character is Shown). From a directorial standpoint, these methods allow the foreshadowing of future events and the audience to infer what may happen in the story of the movie by the subconscious acknowledgment of what the background music could entail.

Furthermore, Genre is a more explicit detail of soundtracks because it displays the emotions trying to be portrayed. For instance, a horror movie uses minor but frightening sounds to spook the viewers, whereas a more dramatic film will give off a variety of emotions and different types of music depending on the scene. Genre shapes the way a scene goes from a movie. Without the music, there's no understanding of the emotions and feelings viewers give off. Not only that, but it also reveals how the character can feel and provide a mood. It can even form the setting of a film, such as, conveying whether it's a calm/relaxing place or a suspenseful/thrilling environment. Genres in music are critical overall, and represent the essential moments in the plot of a film. (Do film soundtracks contain nonlinear analogues to influence emotion?)

Additionally, matching the aural tone to the visual tone is the key to finding that perfect display in expressionism. Specifically, the individual components of the orchestra are what create the tone of the music in the first place. Aspects such as tempo, rhythm, and volume construct the flow of the songs. Fast paced music with a hard base, typically reflects a suspense that is intended to provide anticipation for the upcoming vital scene. Slower paced tracks, as well as the use of strings, are what typically encourages passion and sentimental moments in the movie. Another feature that is usually the first to be overseen, is the lyrical composition. Though it might seem obvious, the lyrics of a song are fundamental when choosing the tracks to a film. Be that as it may that the musical composition should reflect the scene, it is integral to make sure the lyrical mood reflects that as well. You can have a slow song with happy lyrics, and you can also have a fast song with somber

lyrics. It's crucial to find that perfect balance between the two. (7 ways to use music to create mood and meaning onscreen.)

As you can see, music compositions are a vital detail to pay attention to when it comes to filmmaking. For with a lack thereof, there would be a limitation to the personal tie of the story. The arrangement of audio with visuals is one of the many steps that needs to be formed to portray such powerful statements. Music helps structure the way a scene may go in a movie and expresses all sorts of emotions depending on the type of genre that is being displayed (Minds reacting to music). Without the variety of music, the substantial response would be nowhere as representational to the success and production of films. It not only supports the story, but structures the characters' portrayal, forms the setting, and satisfies our expectations post-review.

Materials and Methods (Procedure)

Procedures:

1. Five selected movies and sheets of paper, for each chosen emotional attractive scene, were prepared before the watching session began
2. A movie was selected on the device
3. While the movie was playing, notes were jotted down about the changing soundtracks for emotional portrayal in certain scenes throughout the movie.
4. Each musically implemented scene correlated with a certain emotion, as did certain patterns within the music composition
5. On the observation paper, notes of the different tempos, rhythms, and lyrical differences were written down for the designated scenes in the movie.
6. This procedure was repeated five times with each movie that was picked.
7. Finally, patterns were compiled from the collected data that compared the film scores of all five movies. A conclusion was made that pertained to the ideal directorial tactics of music directors in the entertainment industry.

Data Analysis Procedure:

8. Five data tables have been created, each movie was written with its own table
9. In the table, the title of the movie was recorded as well as its film director
10. Scene titles were individually written in the designated row for their appropriate emotion
11. The remaining columns on the components of music composition were recorded for each scene
12. This procedure was repeated five times for each film

Material List:

- 5 Movies with different directors to analyze
- T.V/any entertainment displaying device to watch films
- Utensils to write with such as pens or pencils
- A paper designated for each movie and emotion to record the data
- Possibly headphones to isolate the audio from background noise

DATA

Joyful and Content Scenes:

Column2	Column1
	Number of Movies
Timbre	
Aerophones	3
Membranophones	3
Idiophones	2
Chordophones	5

Tempo	Number of Movies
Fast	5
Accelerando	0
Mediocre	1
Slow	0

Sounds	Number of Movies
Loud Dialogue	5
Leveled Dialogue	0
Quiet Dialogue	1

Tone of Lyrics	Number of Movies
Optimistic	6
Pessimistic	0
Solemn	0
Distressed	0

Fearful Scenes:

Column2	Column1
tempo	Number of movies
Fast	3
Accelerando	1
Mediocre	2
Slow	0

Timbre	Number of Movies
Aerophones	3
Membranophones	0
Idiophones	0
Chordophones	6

Sounds	Number of Movies
Loud Dialogue	4
Leveled Dialogue	1
Quiet Dialogue	1

Tone of Lyrics	Number of Movies
Optimistic	0
Pessimistic	2
Solemn	0
Distressed	4

PASSIONATE SCENES

tempo	Number of Movies
Fast	2
Accelerando	0
Mediocre	4
Slow	0

Timbre	Number of Movies
Aerophones	2
Membranophones	4
Idiophones	1
Chordophones	6

Sounds	Number of Movies
Loud Dialogue	3
Leveled Dialogue	0
Quiet Dialogue	3

Tone of Lyrics	Number of Movies
Optimistic	6
Pessimistic	0
Solemn	0
Distressed	0

GRIEF SCENES

tempo	Number of Movies
Fast	1
Accelerando	0
Mediocre	1
Slow	3

Timbre	Number of Movies
Aerophones	1
Membranophones	1
Idiophones	0
Chordophones	5

Sounds	Number of Movies
Loud Dialogue	1
Leveled Dialogue	1
Quiet Dialogue	3

Tone of Lyrics	Number of Movies
Optimistic	0
Pessimistic	1
Solemn	3
Distressed	1

ANXIOUS SCENES

tempo	Number of Movies
Fast	3
Accelerando	2
Mediocre	1
Slow	0

Timbre	Number of Movies
Aerophones	2
Membranophones	2
Idiophones	1
Chordophones	6

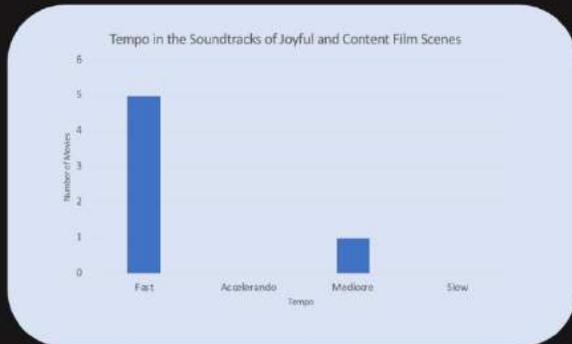
Sounds	Number of Movies
Loud Dialogue	3
Leveled Dialogue	1
Quiet Dialogue	2

Tone of Lyrics	Number of Movies
Optimistic	0
Pessimistic	1
Solemn	2
Distressed	3

Results

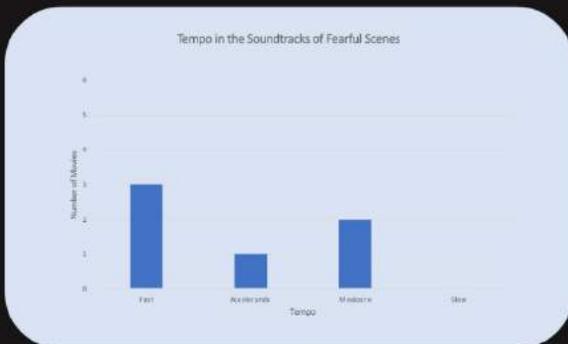
Tempo:

Soundtracks of Joyful and Content Film Scenes:



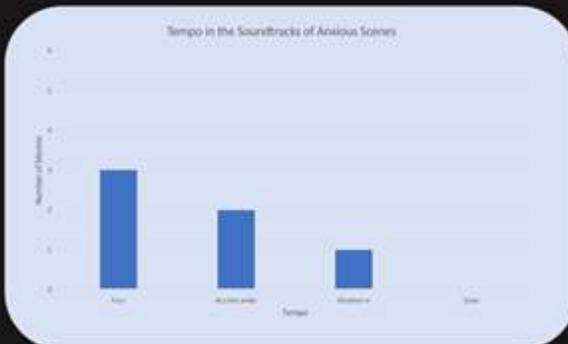
Claim Statement: The amount of fast paced tempos used in the soundtracks outnumbered the use of accelerando, mediocre, and slow tempo used.

Soundtracks of Fearful Film Scenes:



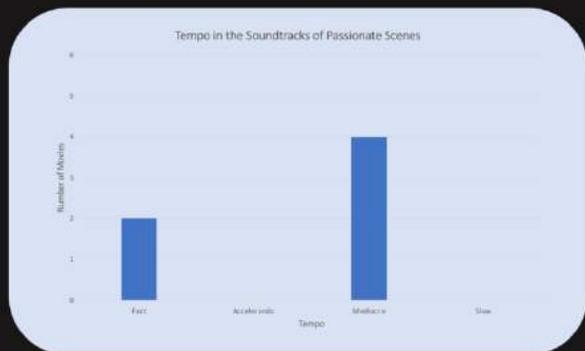
Claim Statement: The use of fast tempos exceeded the increase of mediocre while accelerando was used once and slow tempos were not used.

Soundtracks of Anxious Film Scenes:



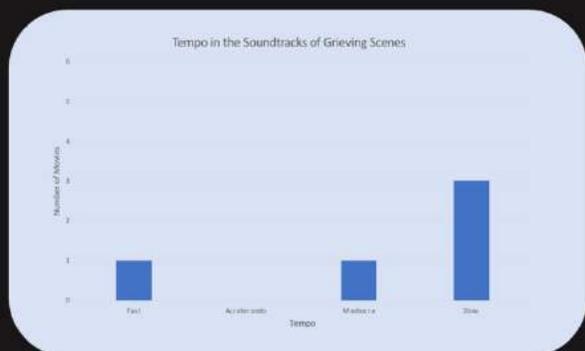
Claim Statement: As the fast tempo increased the rest of the tempo started to decrease or remain the same

Soundtracks of Passionate Film Scenes:



Claim Statement: As the amount of fast and mediocre tempo increased the accelerando and slow remained the same or were not used.

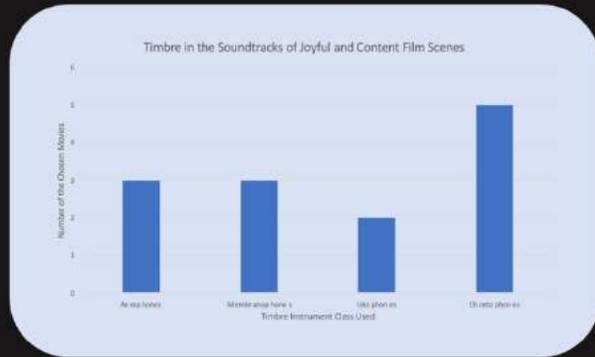
Soundtracks of Grieving Film Scenes:



Claim Statement: Slow tempos were most consistent during the decrease of mediocre and fast while accelerando use remained at 0.

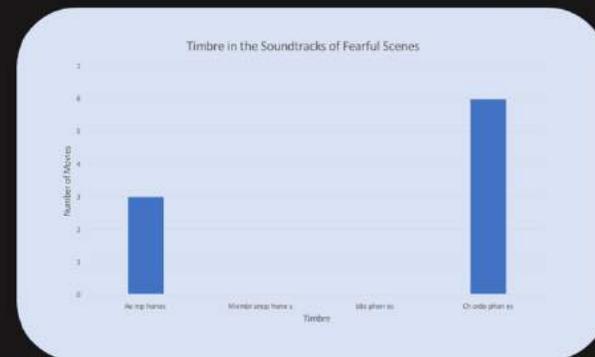
Timbre:

Soundtracks of Joyful and Content Film Scenes:



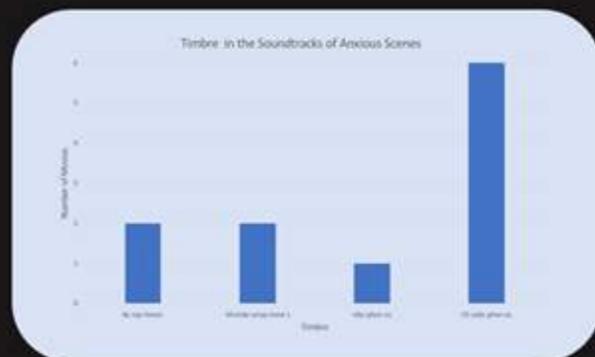
Claim Statement: The amount of chordophones exceeded the amount of idiophones, aerophones, and membranophones used.

Soundtracks of Fearful Film Scenes:



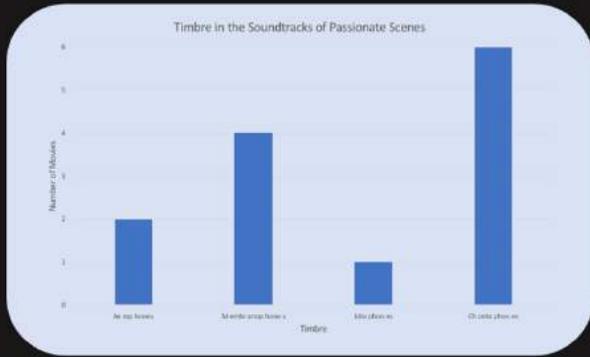
Claim Statement: The amount of Chordophones increased while the Membranophones/Idiophones decreased to 0.

Soundtracks of Anxious Film Scenes:



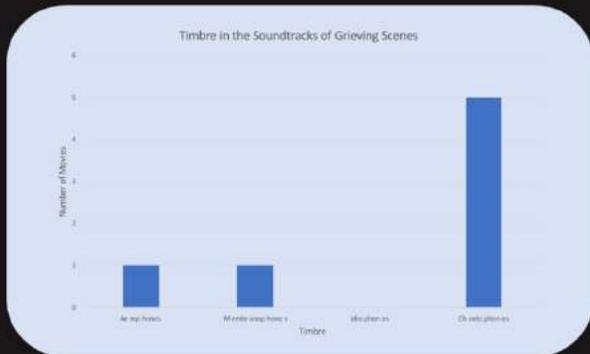
Claim Statement: The use of chordophones increased rapidly while the rest of the timbres increased at a low level. Chordophones still surpassed.

Soundtracks of Passionate Film Scenes:



Claim Statement: As the membranophones and chordophones timbre increased the aerophones and idiophones decreased.

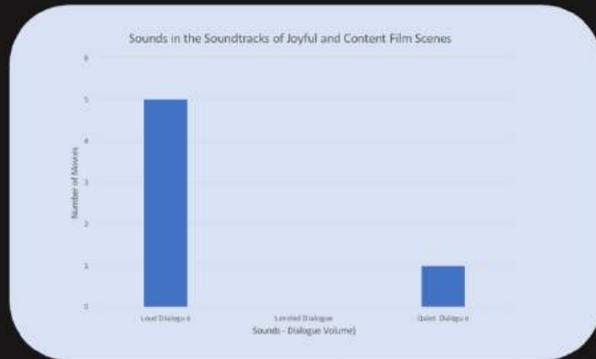
Soundtracks of Grieving Film Scenes:



Claim Statement: The amount of Chordophones, Membranophones, Aerophones increased while idiophones remained with no use. Chordophones were the most used.

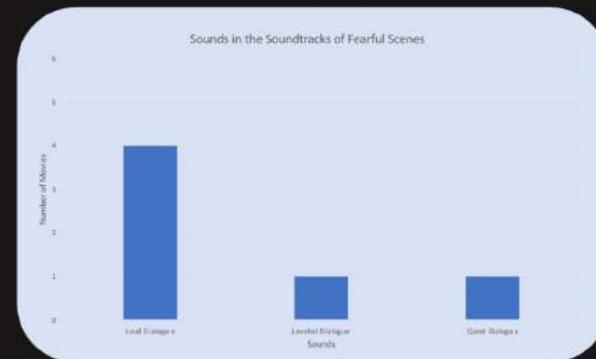
Sounds:

Soundtracks of Joyful and Content Film Scenes:



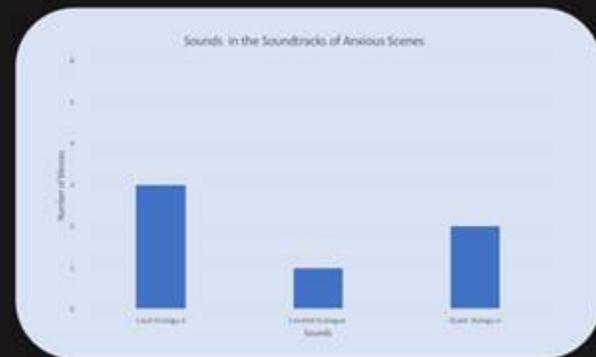
Claim Statement: The amount of Loud dialogue increased significantly while the Leveled and Quiet dialogue declined or bottomed to no use.

Soundtracks of Fearful Film Scenes:



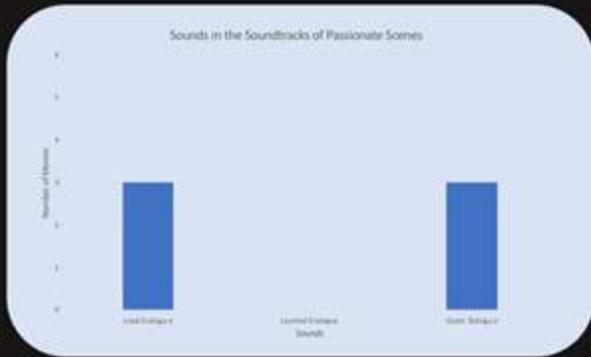
Claim Statement: The amount of Loud dialogue increased while the leveled/quiet dialogue decreased

Soundtracks of Anxious Film Scenes:



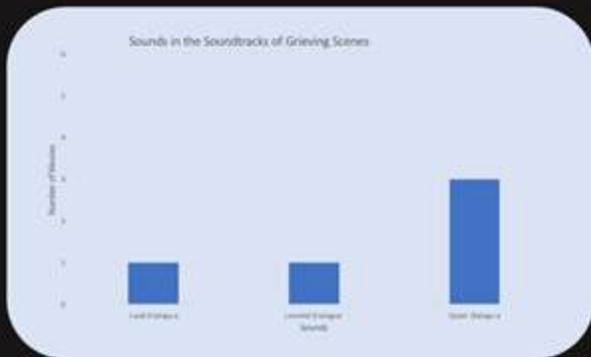
Claim Statement: As the loud dialogue and quiet dialogue increased at a slow pace, the leveled dialogue decreased

Soundtracks of Passionate Film Scenes:



Claim Statement: As the loud and quiet dialogue increased the leveled dialogue remained the same.

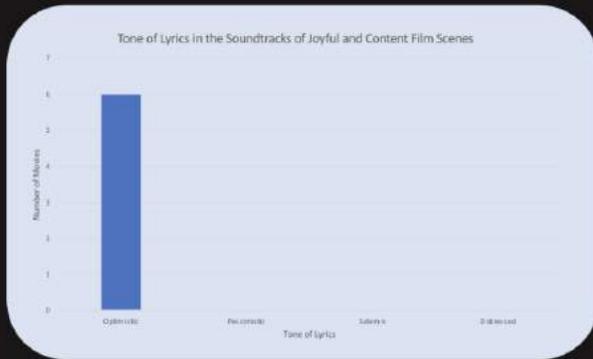
Soundtracks of Grieving Film Scenes:



Claim Statement: All of the dialogues increased at some amount, however the use of quiet dialogue was more frequent.

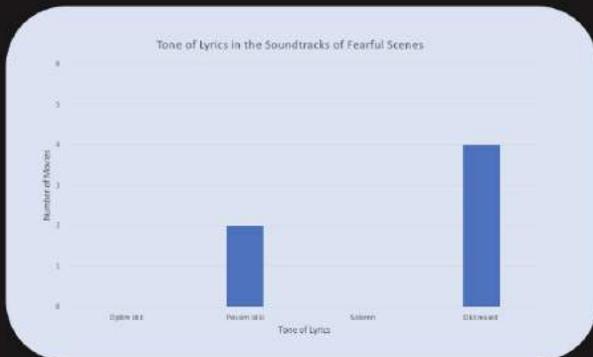
Tone of Lyrics:

Soundtracks of Joyful and Content Film Scenes:



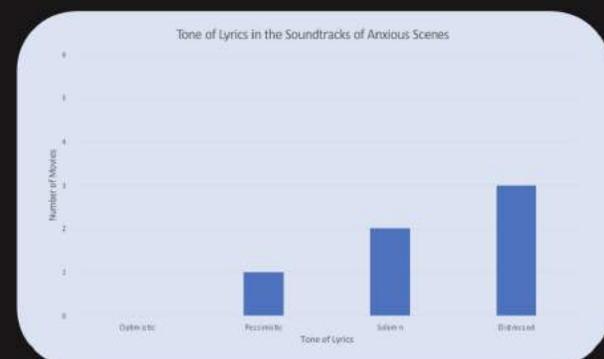
Claim Statement: The amount of optimism increased while there wasn't any use of pessimism, solemn, and distress.

Soundtracks of Fearful Film Scenes:



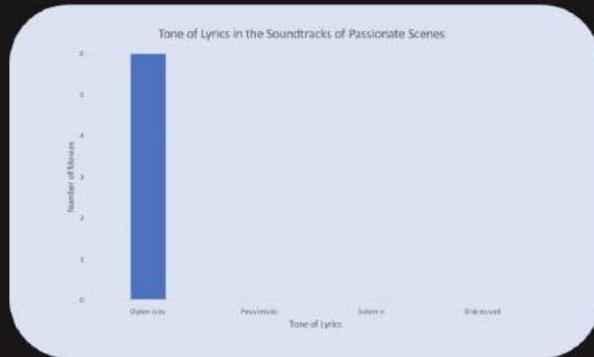
Claim Statement: The use of distressed/pessimistic lyrics increased while optimistic/solemn lyrics were not used.

Soundtracks of Anxious Film Scenes:



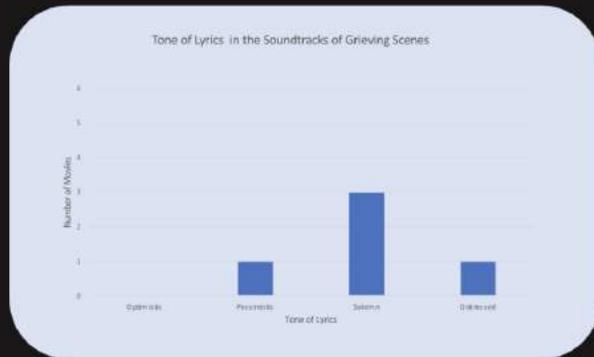
Claim Statement: As the optimism used remained at 0 the other tones of lyrics gradually increased with distress surpassing.

Soundtracks of Passionate Film Scenes:



Claim Statement: As the optimistic tone of lyrics increased the rest of the tones were not used.

Soundtracks of Grieving Film Scenes:



Claim Statement: The change in tone of solemn, distress, and pessimism remained in use while optimism was at the low. Solemn tones were most used.

Pattern Results:

Joyful and Content Scenes:

- Fast Tempo, Chordophones, Loud Dialogue, Optimism

Fearful Scenes:

- Fast Tempo, Chordophones, Loud Dialogue, Distress

Passionate Scenes:

- Mediocre Tempo, Chordophones, Equal use between Loud and Quiet Dialogue, Optimism

Grieving Scenes:

- Slow Tempo, Chordophones, Quiet Dialogue, Solemn

Anxious Scenes:

- Fast Tempo, Chordophones, Loud Dialogue, Distress

Discussion and Conclusion

In this project, we recorded data from diverse types of films that contained music soundtracks. These music soundtracks were composed to portray many different emotions from what you may expect. This experiment helped predict how an audience may interpret the present character's feelings and mind set of the current scene using musical scores. Our results consisted of uniform data, which led to the conclusion that general music composition within the film industry follows the same principal criteria regardless of its production studio.

Though our testing results were conclusively accurate, there are many factors that could have led to a variation of skewed data. One example could be the fact that most of the soundtracks of films are compiled with the use of multiple instruments and electronic sounds that could not all be accounted for in the data collection. Another could be the mistake of confusing certain sounds with other instruments which would change the category the data would be marked under.

Human sounds convey emotions clearly and faster than words. The brain uses "older" systems/structures to preferentially process emotion expressed through vocalizations. According to researchers from McGill, it takes just one-tenth of a second for our brains to begin to recognize emotions conveyed by "vocalizations." The researchers believe that the speed with which the brain 'tags' these vocalizations and the preference given to them compared to language, is due to the potentially crucial role that decoding vocal sounds has played in human survival. "The identification of emotional vocalizations depends on systems in the brain that are older in evolutionary terms," says Marc Pell, Director of McGill's School of Communication Sciences and Disorders. While understanding the emotions expressed in spoken language, on the other hand, involves more recent brain systems that have evolved as human language developed.

By analyzing neurological patterns associated with emotional response, basic studies like these can offer new experimental trials in various studies of psychology such as:

- compiling methods to prevent psychological triggers of past trauma, or in general, associating memories with sound
- proposing an unconventional approach to improving cognitive interviews that are frequently used in behavioral sciences like profiling

PICTURES:



Edward Scissorhands



The Polar Express



Hairspray



Guardians of the Galaxy



Moonrise Kingdom



500 Days of Summer

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- McGill University. "Human sounds convey emotions clearer and faster than words." *ScienceDaily*. ScienceDaily, 18 January 2016. <https://www.sciencedirect.com/science/article/abs/pii/S0301051115300478?via%3Dihub>

MOVIE REFERENCES:

Polar express:

Director- Robert Zemeckis

Release date- November 10, 2004

Music composed by: [Alan Silvestri](#)

Story by: [Chris Van Allsburg](#)

Hairspray:

Director: [John Waters](#)

Release date: February 26, 1988 ([USA](#))

Music Composed by: Kenny Vance

Story by: John Waters

Edward Scissorhands:

Director: Tim Burton

Release date: December 7, 1990 ([USA](#))

Story by: Tim Burton; Caroline Thompson

Music Composed by: Danny Elfman

Guardians of The Galaxy:

Director: [James Gunn](#)

Release date: August 1, 2014 ([USA](#))

Music composed by: [Tyler Bates](#)

Story by: James Gunn, Nicole Perlman, Dan Abnett, Andy Lanning

Moonrise Kingdom:

Director: Wes Anderson

Release date: May 25, 2012 ([USA](#))

Music by: Alexandre Desplat

Story by: Wes Anderson; Roman Coppola

500 Days of Summer:

Director: [Marc Webb](#)

Release date: July 17, 2009 ([USA](#))

Music by: Rob Simonsen, Mychael Danna

Story by: Scott Neustadter; Michael H. Weber

PHOTO REFERENCES:

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Moonrise kingdom: https://www.pilotonline.com/entertainment/article_b7fb8050-a47b-5fdf-b7be-12d90068d737.html

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