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Emotional Responses to a Musical Performance

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Abstract

Music has existed for millennia, for at least as long as language, but music's effects are often felt to be immediate, rather than historical. The effects that specific music can generate are generally kept between the music and the person listening. When an individual listens to music, one would expect for their music choices to reflect the mood they are in or their musical and artist preferences. But what about emotions? Can an individual experience varying intensities of emotions from listening to music? In addition to the differences in intensities, what are some factors (e.g., lyrical content, melody or harmony, live or recorded performance) that determine or explain these emotions? The aims of this study are to determine if music affects the intensity of emotion and empathy with the artist. This manuscript will describe a proposed study to specifically examine the differences between emotion and empathy when listening to a live performance as compared to a recorded performance of the same musical piece. Through questionnaires assessing the performer and participants, this study will compare the emotions the performer intended with what was received from their audience. It is posited that in the live performance there may be greater empathy with the performer, whereby the performer can potentially influence their audience to experience the emotions they are feeling in performing their music and trying to convey through that song. This proposal concludes by discussing future studies that can explore how music influences emotions and the role of empathy in the experiences of musical performances.

1. Introduction

1.1 Music and its Influences on Emotion

Authors who have studied the art of music have documented a pronounced connection between music and emotions that date back to ancient Greece.[1] Today, studies have confirmed that music can be perceived as the language of emotion; people commonly listen to music to attain specific emotional outcomes.[2] Music can also come in different forms, such as rhythm and blues and electronic genres. With each genre, there are various factors that influence different reactions and emotions within the listener. What the listener experiences may diverge from the artist's experience and intention in performing the musical piece. Reasons for the creation of a particular song are specific to each artist, and each song can reveal different motivations that regard how the composer felt when creating the piece or what emotions they intended to convey. This has the potential to directly impact the listener, as music may be felt through the process of emotional contagion.[3] Emotional contagion, a rudimentary form of empathy[4], is influenced not only by the emotions and associated nonverbal communication (e.g., facial expressions, inflections) of the performer but also by external factors, such as the lyrics, the setting of a performance, the presence of others, and the emotion(s) the listener may have had hearing the song previously. With music's different genres, mediums, and reasonings behind song lyrics, there are other discursive factors, even outside of commonly discussed musical parameters, such as melody and harmony, that also interplay with these factors to induce an overall response to a musical piece.

There are theories that the empathy and visual imagery of the listener are the most influential determinants when concerning how music induces emotions.[5] This includes the listeners' baseline level of empathy, their capacity to understand the intentions of music performers, as well as their ability to experience emotions such as sadness or tenderness in response to music.[6] Performers also can use visual cues to encourage listeners to feel certain emotions. Visual cues such as facial expressions and body movement can sway reactions that listeners may attain from watching someone perform a song. Facial expressions play a prominent role in human expression of emotions, but it is an unconscious component that may or may not affect the particular emotional arousal that a performer intends.[7]

1.2 The Field of Music and Emotion Research

Humans may have a natural tendency to feel empathy in varying intensities with people and in events that may have or could have happened to them. This allows individuals to experience emotions in different intensities, like feeling different levels of sadness when learning that an individual's family passes away as compared to if that person received a failing grade in a class. In other contexts, emotions can prepare individuals to handle real-world situations that are significant for reproduction and survival.[8] The majority of skills are learned by experience. However, even in situations in which an individual indirectly experiences a situation, such as through hearing a story, that individuals' emotions can still feel very personal, as if they were going through the same thing. Feeling empathy towards someone or something can become effortless through one's life-span, but how can it be measured? Can emotion and empathy be differentiated in one's response to a musical piece?

The consideration that music influences emotion serves as the basis for a theory called emotivism. Emotions are central to the emotivist position, which claims that true emotions, rather than empathetic emotions, are provoked by music.[9] This theory includes music expressiveness, which is the basic expression of music in its vital form. According to Kim, emotivism allows an outlook that emphasizes the emotions felt by listeners and triggered by musical features.[10] If there is an absence of emotion by the listener, there is also an absence of the subjective experience of feeling certain emotion from music, which is the source of musical expressiveness.

However, different facets of the music may determine whether and the intensity with which certain emotions are felt. There are other contributing factors towards emotions and music, including the convoluted interplay between the listener, the music, and the listener's environment.[11] Given the individual differences in how one interprets a musical piece and experiences emotion, it is difficult to identify what exactly causes emotion to be evoked by music. In Gabrielsson's study of how music evokes strong emotions within individuals, there were features of the music, such as 'high volumes, screaming saxophones and a mode transition from minor to major', that influenced emotional reactions. Nevertheless, even when such specific influences were identified, it continued to be difficult to find the *exact* reasons as to why participants had the emotional responses that they did.[12]

1.3 Live Music versus Recorded Music

An additional factor that may influence the emotion experienced by the listener is whether the performance is experienced live or through a recording. Live performances may allow an audience to feel more emotions because of emotional contagion and fostering interpersonal connections between the performer and the audience. In a study conducted by Balteș and Miu, participants attended a live performance of Giacomo Puccini's opera "Madama Butterfly" and focused on the influence of empathy, visual imagery, and mood on music-induced emotions reported during this opera.[13] Since the piece consists of a tragic story, they hypothesized that the audience would report negative emotions, which were confirmed by the data. Given that watching an opera live can be a rich emotional experience, there was an increase of emotional buildup with regard to the opera's dramatic changes within its story, mainly because of its peril events happening in real time.

Humans in social interactions observe the behavior of others in order to understand, interact and connect. During a performance, the audience is engaged in an act of social perception; the use of making impressions in order to feel a connection with the performer.[14] As such, one can hypothesize that given the lack of visual and social cues, emotional contagion may be less during video or audio recorded performances than when experiencing the music performed live.

1.4 Proposed Research Study

There are many factors related to both the individual and the music that can affect the intensity of emotion one experiences in response to a musical piece. Similar individual and music-specific factors may influence the degree of empathy one experiences with the performer. One notable factor that has yet to be fully explored but that may influence both emotion and empathy toward the performer is whether the performance is experienced live or via a video recording. The present study aims to address this gap in the literature. Specifically, the author hypothesizes that individuals who listen to a live performance of an original song would experience a greater intensity of emotion and more empathy towards the performer than do those who listen to a recorded performance of that same musical piece. This research can be necessary for music artists who have a goal of displaying a certain type of emotion when an audience listens to their music as well as those wishing to facilitate a stronger connection with their audience or listener. For participants, it can allow them to listen differently to certain types of music and be more aware of how they are engaging with music.

2. Methods

2.1 Participants

All participants will be students and faculty from a small southern liberal arts university or community members from the surrounding city and county, totaling approximately 50 individuals. Participants will be excluded from the study if they are below the age of 18. As most of the literature in this area was conducted with individuals over the age of 18, this study will similarly focus on adults. Participants will be recruited via voluntary sampling. However, participants will be randomly assigned to one of two groups, specifically listening to a live performance of an original song or a recorded version of that same performance.

2.2 Materials

These materials will be used to assess the intensities of emotion and individuals' level of empathy towards a musical performance.

2.2.1 performer assessments

Prior to performing their original song, the performer will complete the following assessments:

Performer Musical Experiences Questionnaire

The performer will complete a 13-item emotion ratings Likert scale named the *Music Experience Questionnaire*, which assesses the intensity of emotions felt when writing their song. The *Music Experience Questionnaire* was adapted from a scale developed by Juslin (2008) to assess which emotions were elicited by a musical piece.[15] To extend Juslin's scale, the present study will ask the performer to rate the intensities of 13 emotional categories that they intended to convey to their audience, such as "happiness/elation" and "sadness/melancholy". Each emotion is scaled from one to 10, one indicating least intense and 10 indicating most intense. For additional knowledge, the performer will be asked, "what aspects of the music led you to feel this emotion?".

Performer Interview

The performer will be asked a series of questions that will relate to how they felt when writing their original song and what they intend to share with the audience. These questions will include inquiries like, "Does this music have any significant historical or personal associations for you?".

2.2.2 audience assessments

Participants in both the live and recorded performance groups will complete the following assessments:

Demographics Questionnaire
The demographics questionnaire will include information related to the participants' age, gender and racial ethnicity. There are also questions that relate to the topic of the experiment like if they have a musical background. Responses on this form will be used to assess how individual differences may affect their results.

Empathy Quotient (EQ)
To measure baseline levels of empathy, participants also will complete the *Empathy Quotient (EQ)*.[16] This measure is a 60-item Likert scale questionnaire that assesses the empathic capacity of an individual. Participants rate each item from strongly disagree to strongly agree. Lawrence, Shaw, Baker, Baron-Cohen, and David (2004) found that this measure is both reliable and valid.[17] For the purposes of this research, it is believed that if an individual scores low on the *EQ*[18], meaning they experience lower levels of empathy, their responses on the *Music Experience Questionnaire* may also be low.

Participant Musical Experiences Questionnaire
The participant version of the *Music Experience Questionnaire* was structured identically to the performer version, assessing the emotional intensity of 13 emotions. Similarly, it also contained a space by each emotion asking participants, "What about the music led you to feel this emotion?" This allows the researchers to gather further details about how the participants are relating to the music.

Concluding Open-ended Questions
The eight open-ended questions gather details about their physical or mental responses to the performance and how it may reflect their mood or prior emotions that were recalled while listening to the song. The questions were designed to veer towards their specific emotions after experiencing a live or recorded performance. The concluding questions include, "What dimension(s) of the music impacted you the most?" and "Do the words affect the "meaning" of the song in specific ways? If so, how?".

2.3 Procedure

2.3.1 initial procedures

Following IRB approval, a musician will be selected through volunteer sampling to write and perform an original musical piece. The purpose of having a musical piece is to ensure that there to not be preexisting emotional biases within the listeners due to potential familiarity with the song. The musician will not be known to the participants to prevent any bias in responses related to previous social interactions. Prior to the performance, the musician will complete the *Music Experience Questionnaire* ratings scale in order to record what detailed emotions the performer intends to convey to their audience. The performer will also be interviewed to further explore their experience and intent in writing and listening to their song.

The musician will agree to have their live performance recorded for the main reason of showing the "recorded performance" group their performance. Participants similarly will be selected using volunteer sampling. Following informed consent of all participants, they will be assigned to either the live or recorded performance group and given a unique identifying code to be used to link all assessments. As such, no identifying information will be collected as part of this study.

2.3.2 live performance

Prior to live performance, the participants in this group will complete an informed consent, a demographics questionnaire and the *EQ*[19]. The completion of the assessments prior to the performance allows the researchers to discover the basis of their groups and potential factors that may influence their responses. Next, the participants will watch the performance in an auditory room on the school's campus. After performance, they will complete the *Music*

Experience Questionnaire ratings scale and open-ended questions form. During the live performance, the musician will be recorded, and this recording will be used for the "recorded performance" group.

2.3.3 recorded performance

Twenty-four hours following the live performance group, the recorded performance group will watch the recorded performance in the same room as the live performance and in a group setting. Prior to watching recorded performance, the participants in this group will complete an informed consent, a demographics questionnaire and an *EQ*.[20] This group will then watch the performance off of a screen at the front of the room, mirroring the live performance.

After the performance, the participants will complete the participant version of the Music Experience Questionnaire ratings scale and the concluding open-ended questions form. Between the live performance group and the recorded performance group, each response will be compared with the performer's response; it will be used to compare the intensity of listeners' emotional responses to that of the intensity of the emotions that the musician felt when writing and performing their musical piece. All participants will be debriefed following their group's performance.

3. Discussion

The researcher hypothesizes that participants who watch a live performance will experience a more intense emotional response to the music and greater empathy for the performer than do participants who watch a video recording of that same performance. Results of this study would have several potential implications. This research could benefit music artists who have a goal of displaying a certain type of emotion to their audience or be better at facilitating a connection with their audience. For example, pop artists like Ariana Grande create their music for their audience to feel validated within their own emotions while also including personal life events that led to the creation of a song.[21] While an artist of a different genre may communicate through their lyrics that they are distressed, both distressed and *other* emotions can be revealed through lyrics. However, if there are other factors like visual cues during a live performance, those factors may influence increased rates of the emotions, which better align with the artist's intent. For participants, it can allow them to be more aware of how they listen to music and choose to listen to certain types of music for different reasons. Studying the interaction between emotions and empathy is dense in itself because of the considerable reciprocal influence they have on one another. If an individual has high levels of empathy, it may be more likely for them to experience higher intensities of emotions within music. Another individual difference that could heavily influence a listener's emotional response and empathic feelings toward a performer are the participants' preference of music. What the performer plays may not be favored by every participant, which could be reflected in their self-report measures. This is an additional line of research that could further inform the relationship between music, empathy, and emotion.

4. Limitations

There are potential limitations to this study. Response bias is possible within the self-report measures. The prior mood and emotions of the participant may bias their emotions and influence their emotional response to the music and performer. Another factor that may influence the results is the presence of others in the room and if there is any dialogue between the participants. Facial expressions of other participants also can influence emotions and what would be deemed socially acceptable. Another limitation could be the lack of validity and reliability around the instrument that was designed for this study to capture empathy with the performer, as this will be the first time it will be administered in a research study like this. In addition, the emotions listed on the emotions ratings scale are not defined, which could also lead to invalid results. Lastly, conducting this experiment in a small southern city may have setbacks because of embedded opinions about certain genres of music within the participants.

5. Conclusion

Although the acknowledged correspondences between emotions and music are ancient, the kind of empirical correlations that were attempted to be sketched out are just beginning to emerge. The study of how emotions are influenced by music is relatively new. Studies confirm that emotion is strongly related to multiple factors associated with the individual, the performer, and the environment when listening to certain types of music, yet there is still opportunity to expand the understanding in this area.[22] The comparison of a performer's emotions and intent behind writing an original song and their listeners' emotions towards the performer and their song can extend this line of research, especially when the two conditions of a live performance and a video-recorded performance are compared.

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