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Music and Emotion: The Role of Musical Features and Psychological Mechanisms

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Abstract. Music is closely related to human emotions and has the ability to affect the psychological state of listeners. Studies have shown that music can affect the emotions of listeners through a number of psychological mechanisms and musical features. Musical elements such as tempo, mode, pitch, rhythm, and timbre influence the emotions expressed in a musical composition. Secondly, music affects the psychological state of the listeners through mechanisms such as contagion, memory and musical expectation. Differences in personality may also influence responses to music. Emotional responses to the same piece of music may vary, and may be influenced by a person's personality, music experience, memory and music preference. Contextual and motivational variables may also influence the outcome. Music can make one person feel positive emotions and another person feel negative emotions. These factors combine to affect how listeners hear, understand and expect the music to sound. This essay will examine the psychological mechanisms that explain how musical features affect emotions, with a special emphasis on music and emotion.

Keywords: Music, Emotions, Psychological Mechanisms

1. Introduction

For thousands of years, music has always been related to human emotions in several societies around the world. Music can express or induce several kinds of human emotions including joy, sorrow, rage, serenity, amazement, or nostalgia. Music is considered as an abstract type of art since it can have effects on the mind and body, therefore making music has close relations with human emotions [1, 2]. There are scientists that conduct research to investigate both emotions expressed through music and emotion induction of music to humans. Studies show that listening to music leads to strong emotional and physical responses to people. One particular research used PET to measure changes when participants experienced chills while listening to selected music pieces. Results showed that there were physiological effects such as heart rate and respiration rate, as well as brain activities related to rewards and emotions during music appreciation. Another research distributed surveys to 1,500 adults in Sweden and received 762 completed questionnaires.

According to the research, the emotional contents of music could be classified into perceived emotions and experienced emotions. The perceived emotions refer to emotions that are detected in music whereas the experienced emotions refer to emotions felt by the audience when listening to the

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music [1]. Sometimes, the perceived emotions may be different from the experienced emotions. For instance, a person understands that a piece of music expresses sadness without feeling sad. An experiment conducted on 141 participants showed that all of the participants agree that emotions could be conveyed through music [1]. The same experiment shows that people were able to identify happiness and sadness in music [1]. People would respond differently towards identical music as well. The responses were influenced by musical attributes, psychological processes, individual variations, memories and circumstances under which music was played.

2. Related work

2.1. Musical features and emotions

The emotions caused by music depend upon the pace, mode, harmony, pitch, rhythm, volume, timbre, and articulation of the musical piece. The tempo would be the most important among all other elements of music [1]. In an experiment where scientists studied eight out of thirty eight aspects of music in 384 songs. The research findings show that the participants correctly identified the music's emotion as happy or sad in 83-88% of the variances. This means there are many components that can influence the emotions music aims to communicate. This experiment also demonstrated that specific combinations of musical features can evoke a variety of emotions [1]. In one further experiment subjects would have to listen to three pieces expressing sadness, fear or happiness. Their breathing, skin response, blood pressure and heart rate were recorded by the researchers [3]. The experiment results indicated that the participants' bodies would react differently to each piece of music [3]. Thus, music can not only affect the emotional feelings of the individual but also stimulate the physical responses of the human body. Listeners are usually able to distinguish between simple emotions like sadness and happiness, while it is more complicated for them to perceive more complex emotions like guilt or enviness [1]. Thus, music is able to convey various emotions, both simple and complex, but the most easily perceived by listeners are happiness and sadness.

2.2. Psychological mechanisms

There are many psychological mechanisms that can enable the successful and effective expression of emotion through music. Mechanisms are musical expectancy, emotional contagion, rhythmic entrainment and episodic memory. The notion of emotional contagion is the phenomenon of listeners experiencing similar emotions as being expressed by music, as shown in the work of Juslin and Västfjäll [3, 4]. Musical expectancy is also the emotional response the music evokes. Juslin and Vastfjall suggest that music follows six emotional pathways. These include brainstem reflexes, evaluative conditioning, emotional contagion, visualization, episodic memory, and musical expectancy. Therefore these mechanisms show the different ways in which music can influence emotions. In a research study conducted by Krumhansl et al., 38 subjects were played sad, fearful, and happy music, whereas the researcher recorded changes in heart rate, blood pressure, skin conductance, and respiration. Each genre of music produced various physical effects depending on the emotions. In another research conducted using PET scan technology, it was found that when subjects felt chills during self-chosen music, their heart rate, respiration, and neural activity also varied. These pieces of evidence show that music affects emotions and physical status, and therefore, different people react differently even if they listen to identical music.

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2.3. Individual differences and context

Different kinds of music can evoke different feelings and emotions in people. These emotions can be different for everyone. Factors such as an individual's personality, listening style, and personal experiences with music can all affect the kind of emotions someone feels. Different genres of music may also evoke different moods and emotions and someone's personal response to a piece may still be unique. Music should also be appreciated in different ways. Some people like to analyze the music and some dive into the music. People's listening styles are either emotional, sentimental, distancing, or compensating [1]. The emotions one feels from listening to music may also differ due to their reasons for listening [1, 5, 6]. A nationwide survey with a 51% response rate was sent to 1,500 people in Sweden, with 762 people who actually filled the survey [7]. From the 706 who reported their feelings, it showed that 84% of reported emotions were positive emotions, 92% of emotions were specific emotions, and 89% of emotions were singular emotions [7]. Then another study where 226 people listened to 30 excerpts of popular music, most of the music that evoked nostalgia were related with songs that had connections with the person [6].

3. Limitations

Many of the research studies were limited as participants are judging their own emotions instead of the professional machines or detectors, thus the data obtained may be biased as people might not be able to recognize what feeling they do in fact feel. Moreover, only a limited number of musical excerpts were used [2]. Eerola and Vuoskoski reviewed 251 music-and-emotion studies and found that 70 per cent of the papers studied relied on the same one or more emotion models [2]. Researchers have used various approaches to studying emotion, and this makes it difficult to compare the research results of different studies. Different methodologies for the examination of emotions can also lead to contrary results. Moreover, most of the studies concentrated on using Western tonal music, thus the studies devoted less attention to other music genres and music in other cultures. One of the limitations is that people from different cultures would understand and react to the same music in different ways. For example, music that can express happiness in one culture may evoke sadness in another culture. People may have different responses to the same music according to their personal preferences and experiences. This is already very difficult if a study has only few participants. Future research should have even more variety of music from different cultures and larger and more diverse groups of participants. This will help researchers to understand better how music affects people's emotions.

4. Discussion

Music has a way of affecting people's emotions in different ways. While music can affect people similarly, it can also have a unique impact on each individual. For instance, certain combinations of musical elements can evoke specific emotions. Additionally, people's psychological makeup plays a significant role in how people respond to music emotionally. This helps explain why music can influence people's emotions in various ways, such as through contagion, expectancy, and memory. Studies have shown that music can alter people's brain activity and physiological responses. In one study, participants listened to different versions of the same music with varying levels of dissonance, and the results showed changes in blood flow to several areas of the brain [8, 9]. Similarly, research has found that music-related emotions can affect multiple brain regions responsible for emotional processing [5, 9]. However, people's personal experiences and traits also play a significant role in

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how people respond to music. For example, when people listened to music they personally chose, they all experienced pleasure, which was linked to changes in heart rate, breathing, and activity in brain areas associated with reward and emotions [6, 10]. Music can evoke a wide range of emotions, from happiness to sadness, but people's individual personalities, musical knowledge, memories, and circumstances can influence how people respond to it. The connection between music and emotions is complex and multifaceted. It's not just about the music itself, but also about the person listening to it. People's unique experiences, personalities, and backgrounds all contribute to how people can perceive and respond to music emotionally.

5. Conclusion

There are many factors that would affect the relationship between music and emotions, which includes music features, psychological processes, and personal differences. Firstly, music is made of many aspects including tempo, tonality, pitch, rhythms, and timbre to express different kinds of emotions. This will let people determine what emotion the music conveys. Secondly, people experience emotions based on a psychological process. Emotional contagion happens when people feel emotions similar to what the music is expressing. Musical expectations are when people have expectations towards specific songs. Episodic memories happen when people recall something related to their previous experience after hearing certain music. Thirdly, music has different effects on each individual depending on many reasons including personalities, musicianship, personal memories, favored songs, and settings in which people listen to the songs. Hence, it might happen that two people listen to a song and one feels happiness, whereas another might feel sadness or nostalgia. Research has found out that music could alter both emotional state and physical reactions of a person such as his/her heartbeat rate and breathing. Music could express different kinds of emotions in people; therefore, the effects of music depend on people's reactions. Music might make people happy, sad, angry, or anxious. Future studies should expand the research on different styles of music, different cultural backgrounds, and varied settings of listening to music. Furthermore, researchers can use more participants to conduct the study.

References

[1] Juslin, P. N., & Sloboda, J. A. (2013). Music and emotion. In D. Deutsch (Ed.), *The psychology of music* (3rd ed., pp. 583–645). Academic Press.

[2] Eerola, T., & Vuoskoski, J. K. (2013). A review of music and emotion studies: Approaches, emotion models, and stimuli. *Music Perception, 30*(3), 307–340.

[3] Juslin, P. N., & Västfjäll, D. (2008). Emotional responses to music: The need to consider underlying mechanisms. *Behavioral and Brain Sciences, 31*(5), 559–575.

[4] Juslin, P. N., Liljeström, S., Västfjäll, D., & Lundqvist, L.-O. (2010). How does music evoke emotions? Exploring the underlying mechanisms. In P. N. Juslin & J. A. Sloboda (Eds.), *Handbook of music and emotion: Theory, research, applications* (pp. 605–642). Oxford University Press.

[5] Koelsch, S. (2010). Towards a neural basis of music-evoked emotions. *Trends in Cognitive Sciences, 14*(3), 131–137.

[6] Blood, A. J., & Zatorre, R. J. (2001). Intensely pleasurable responses to music correlate with activity in brain regions implicated in reward and emotion. *Proceedings of the National Academy of Sciences, 98*(20), 11818–11823.

[7] Barrett, F. S., Grimm, K. J., Robins, R. W., Wildschut, C., Sedikides, C., & Janata, P. (2010). Music-evoked nostalgia: Affect, memory, and personality. *Emotion, 10*(3), 390–403.

[8] Krumhansl, C. L. (1997). An exploratory study of musical emotions and psychophysiology. *Canadian Journal of Experimental Psychology, 51*(4), 336–353.

DOI: 10.54254/2753-7064/2026.BJ38388

[9] Blood, A. J., Zatorre, R. J., Bermudez, P., & Evans, A. C. (1999). Emotional responses to pleasant and unpleasant music correlate with activity in paralimbic brain regions. *Nature Neuroscience, 2*(4), 382–387.

[10] Juslin, P. N., Liljeström, S., Laukka, P., Västfjäll, D., & Lundqvist, L.-O. (2011). Emotional reactions to music in a nationally representative sample of Swedish adults: Prevalence and causal influences. *Musicae Scientiae, 15*(2), 174–207.