

# The Inducing Effect of Western Music on Emotion from the Perspective of Postmodern Education

Xiaolin Zhang

Inner Mongolia Normal University, Huhehot, Inner Mongolia 010022, China

**Keywords:** Post-modern education; Western music; Emotion; tonality

**Abstract:** Major and minor, as unique elements in the western music system, have more influence on people's emotions than cultural experience itself. Because the rhythm structure is closely related to human body rhythm, complex perceptual model and cognitive evaluation are not needed, which can be processed from top to bottom quickly and well, and template matching can be carried out to evaluate a series of rhythms as meaningful acoustic symbols. Based on the post-modern education perspective, this paper studies the emotional inducing effect of western music, and the results show that the emotional inducing effect of tonality has certain cultural universality, and the emotional components induced by tonality have the characteristics of domain generalization.

## 1. Introduction

Music is a cultural symbol, which, like language, has its own constituent elements. Music emotion is an emotional response under the action of different music elements. It is an important idea to study the relationship between music elements and emotional response [1]. Emotion and spatial imagination, as one of the most concerned research issues in the field of psychology in recent years, are highly valued by scholars at home and abroad. With the progress and development of music psychology, there are more and more researches on the influence of music emotion on imagination. Music emotion can promote individual physical and mental health and improve cognitive ability [2]. Other harmony intervals will form hierarchical differences in importance and stability, and each harmony interval structure will have its own function. Fast music makes people like and happy, that is, slow music makes people produce negative emotions, while fast music makes people produce positive emotions.

Post-modern educational philosophy is a kind of educational philosophy evolved on the basis of post-modern philosophical theoretical system, which has formed a very wide influence in society with its unique open thinking and flamboyant personality [3]. Postmodernism's questioning and criticism of modernity is also applicable to the theory and practice of music pedagogy. Philosophers have been exploring the meaning and value of music, thinking about why and how music has shocking power. Based on this, from the perspective of post-modern education, this study investigates the emotional experience and physiological response characteristics induced by western traditional music in the crowd under different speed and mode rules.

## 2. Overview of Post-modern Educational Philosophy

Post-modern philosophy is formed in the process that modern philosophy constantly criticizes and reflects on traditional philosophy. Since the beginning of the 20th century, the western ideological circle has set off a wave of rational classical philosophy represented by criticizing Kant and Hegel, and a modern philosophical trend characterized by irrationalism has emerged. The most violent criticism of traditional philosophy by modern philosophy has finally led to the emergence of post-modern philosophy in the history of western philosophy. The central concept and teaching of music teaching are metaphysical methods, which are generally effective for all music cultures, or even if they are not all effective, they are the fundamental basis for learning music [4]. The core value of music education is the uniqueness and necessity of music itself. The uniqueness of music

itself is reflected in the experience gained from music courses, which cannot be obtained from other courses such as dance and literature. Post-modern philosophical thinking just wants to break this unequal thinking mode that lasted for thousands of years, and advocates the establishment of the concept of equality and pluralism to dispel duality and realize the coexistence of pluralism. That is to say, it opposes focusing on teachers' teaching behavior and does not advocate teachers' authority and teaching control. The idea holds that teachers and students are the interactive subjects of dialogue, teachers and students are equal in personality, and they should participate in the process of seeking knowledge together.

### **3. The Influence of the Relationship Between the Elements of Rhythm Structure on Emotion**

#### **3.1. The density relationship between rhythm and speed affects emotion**

At the same speed, different rhythms are different forms of notes. The order of notes is arranged, which reflects the frequency of notes and determines the density of notes. If the emotional inducing effect of tonality rules in western tonality music shows more cultural universality, then Chinese subjects will have similar emotional inducing characteristics with western subjects, that is, major can induce positive emotions. Music is a way for composers to express their thoughts, mood and emotion by means of music based on their outlook on life and world. Major mode, also known as major mode, is a mode composed of seven notes. Its main feature is that the main tone and the third level of the mode are big third intervals, which can best reflect the bright and brilliant color of the major mode. Emotional perception may not be "certain" or "necessary" based on the unique musical cultural experience, but shows pan-cultural characteristics. Similarly, the nonspecific theory holds that such a "common mechanism" may be a congenital basic instinctive reaction, or it may be formed by acquired development [5]. Then, this information is transmitted to the center responsible for control, so that they can influence and adjust the processing, which is called cognitive control, to solve the interference between competitive or potential conflict representations.

#### **3.2. The temporal relationship between rhythm and stress affects emotion**

Freud once pointed out that the great attraction of works of art lies not in its beautiful effect, but in its release of people's instinctive needs, its satisfaction of repressed desires, and its dispelling of the tension caused by suppressing these desires. Post-modern teaching philosophy opposes various forms of dualism, requiring listening to different voices in curriculum organization, paying attention to the instability, discontinuity and relativity of curriculum activities, and the complexity of individual experience interaction. Postmodern philosophers think that this is a unified, generalized and centralized theoretical model, which obscures and obliterates the possibility of differentiation and diversity in the social field, and this rationality is mandatory and oppressive. In a neural study on rhythm, it is found that simple rhythm pattern activates the primary motor cortex in both the left and right hemispheres of the brain, while complex rhythm pattern can activate the motor cortex, and the central cortex in medicine is obviously activated, which accurately controls the timing. The peace, far-reaching and passion in music bring us spiritual comfort and spiritual enlightenment.

The research shows that the mode type, as an important factor affecting the expression of emotion in western music, is usually related to emotional color, that is, the auditory effect of music in major is bright and broad, and it is easy to arouse positive emotional experience such as pleasure. Postmodernists respect individuality, emphasize individual differences of students, and attach importance to the exertion of human subjectivity and creativity. Therefore, they advocate establishing an equal dialogue relationship between teachers and students in the process of education, breaking the authoritative position of teachers in the classroom and strengthening the dialogue and communication between teachers and students. Because the expression of emotion by mode is based on the deviation characteristics of central sound and non-central sound, and although the central sound is definite under different music modes, the research of emotional rationalism defines "mode induction" as the rational trend caused by stimulation. When the normal trend of this

mode induction is hindered and suppressed, the listener will have aesthetic pleasure in music and emotional satisfaction.

### **3.3. The consistency and conflict between beat and stress affect mood**

Music can help people express through different forms. The rhythm stress is divided into regular periodic movements from beginning to end. The determination of the rhythm determines the time and frequency of stress. For music art, the time dimension is extremely important. Post-modernist educators believe that modern education tends to be gifted education, and even in some countries where mass education has dominated, its ultimate tendency is to exclude mass education rather than to accommodate it. As an art, music is not only the polymer of sound, but also the carrier of meaning. It not only provides a rich auditory perceptual world for human beings, but also is closely related to the expression of human inner modal activities. In other words, even if a certain transaction or experience no longer exists in the present sensory state, an individual can mentally recreate an object, event, face and the image ability of related sounds, tastes, touches and smells. Although these cross-channel effects are not aimed at emotional conflicts, it can be inferred from these effects that the interaction between visual channels and auditory channels is likely to have mutual influence.

An important difference between western music history and other disciplines is that music history is a discipline with a long time span, many contents and complex historical relations. Education in the post-modern period is different. It is rooted in various cultural backgrounds, local and special knowledge and various desires. It also attaches great importance to learning experience as an internal component of "lifestyle". Music is an acoustic information event in which numerous acoustic symbols are connected in series, and rhythm is an organization mode in which acoustic symbols are connected in series. The processing of music is a process of extracting different clues and then integrating them to deconstruct music rhythm clues. When the degree of deviation is large, the psychological expectation towards the central sound tendency will be stronger, and the corresponding activation level in auditory mode will be higher, and the intensity of emotional experience may also be intensified [6].

## **4. Emotional Experience Induced Effects of Western Major and Minor under Different Stable Harmony Structures**

### **4.1. Emotional synesthesia**

The heart feels outward, and the emotion moves in the middle. Music may not make you rich, but it will make you happy; Maybe it can't save your soul, but it will make your soul worth saving. The music heart rate of fast and big tune is high, while the music heart rate of slow and small tune is low. In this process, through certain adjustment methods (strategies) and mechanisms, certain changes have taken place in subjective feelings, expressions and behaviors, physiological reactions and so on. There is only one correct way to interpret the text. The objectivity of the text content has been endowed by the author when he created the text. The induced effect of mode on emotional arousal level is significant, but this effect is affected by the degree of mode deviation. Only under the condition of large deviation, the arousal level in major music is higher than that in minor music. On the contrary, negative emotions narrow the individual's thinking ability and cognitive resources; Therefore, emotion can promote or hinder imagination to some extent.

### **4.2. Inducing effect of mode on emotion**

The main effect of mode type is significant. Under the action of major and minor, there is a significant difference in individual evaluation of emotional valence. Specifically, major induces positive emotional experience, while minor induces negative emotional experience. Therefore, when both visual channel and cross-audio-visual channel exist, they work independently, which is consistent with the hypothesis of this experiment. If the conversion of mode and tonality occurs, it will violate the holistic principle of internal melody representation, and thus deviate from the

expectation of music events, thus inducing different emotional experiences. It can be seen that music develops and changes in the flow of notes of time, and beats and walks along with the pulse of people, as if it is a part of human flesh and blood, and people's inner feelings are released here; Sadness and fear induce more intense heart rate activity [7]. Therefore, the research of emotion regulation has wide application value in people's life, especially the regulation of negative emotions is worth exploring various methods.

The emotional experience assessed by the subjects under different stable harmony structures in major or minor is shown in Table 1, and the variable results with significant effects are mainly reported in the following part of this study.

Table 1 Emotional experience inducing effects of major and minor under different stable harmony structures (n = 20)

Emotional experience	Major				Minor			
	Low stability		High stability		Low stability		High stability	
	M	SD	M	SD	M	SD	M	SD
Titer	4.36	1.05	6.69	1.28	3.61	1.27	4.47	1.18
Awakening degree	4.09	1.14	5.84	1.57	4.22	1.51	4.01	1.52
Tension degree	5.01	1.65	4.33	1.05	5.64	1.08	5.22	1.33

It can be said that the history of western music is a subsystem of the whole western cultural process and an organic component of western history. In the Return of "main harmony interval-main harmony interval", the two conditions are terminators conforming to syntactic rules, and the only difference lies in the difference in the stability of the structure of the previous bar and interval in the process of Return to the main harmony interval. Music appreciation is an indispensable link in music practice, and only through the appreciation activities of the appreciators can the creation and performance of music works truly realize their existence value [8]. Based on this, the theory of music emotion expectation can explain the results of Experiment 1, that is, western music with big tune induces positive emotion, while music with minor tune induces negative emotion.

#### 4.3. Inducing effect of deviation degree of mode on emotion

Firstly, the test subjects' valence experience of different types of music was tested, and the number of choices that the subjects judged as positive or negative in major and minor was summed up respectively, and the difference of judgment times was verified by Chi-square test. The test results are shown in Table 2. The results show that most subjects tend to induce positive emotions with major music and negative emotions with minor music, and the difference is significant ( $\chi^2(1)=566.014$ ,  $p<0.001$ ).

Table 2 Emotional valence experience of different music types

Titer	Music type		Total	$\chi^2$
	Major	Minor		566.014
Positive	504	115	619	
Negative	196	585	781	
Total	700	700	1,400	

When the visual conditions have an impact on the subjects, the response of the subjects is obviously faster when the visual conditions are consistent than when they are inconsistent, which is consistent with the previous research results of emotional conflict. Large-scale music temporarily improves the imagination level of the subjects; Listening to minor music temporarily reduces the imagination level of the subjects; The results show that the main effect of deviation degree on emotional potency is not significant, but the interaction between deviation degree and mode is significant. In major, the potency under small deviation music is higher than that under large deviation music, while in minor, the opposite is true. It is an important source to experience the aesthetic feeling of music, which is full of life, contains emotion and embodies power. In this study, the relationship among mode type, emotional titer and finger temperature is generally reflected, that

is, the higher the emotional titer induced by mode type, the higher the finger temperature value.

## **5. Conclusion**

The integration of post-modern educational philosophy and western music history has a very significant positive impact on the teaching of western music history. This study shows that major and gong tune induce positive emotions, minor and feather tune induce negative emotions, and the valence induced by low stable harmony structure is lower than that of high stable harmony structure. The emotional responses induced by music with different speeds and modes are different. Fast and large-scale music can induce more positive emotional responses than slow and minor music. Positive emotion can temporarily improve the spatial imagination level of subjects; Negative emotions can temporarily reduce the spatial imagination level of subjects.

## **References**

- [1] Bai Xuejun, Ma Xie, Tao Yun. The inducing effect of Chinese-Western music on emotions. *Psychology News*, vol. 48, no. 007, pp. 757-769, 2016.
- [2] Hu Yanfang. The inducing effect of Chinese and Western music on emotions. *Win the future*, no. 006, pp. 27-27, 2018.
- [3] Qiu Huiyan, Gan Yaqin. The influence of music-induced emotions on the digital Stroop effect of college students. *Chinese Journal of Health Psychology*, 026, no. 010, pp. 1585-1588, 2018.
- [4] Zhang Li, Pan Fafa. The role of speed and mode in inducing emotional response: Evidence from traditional Chinese and Western music. *Psychological Research*, no. 06, pp. 70-75, 2017.
- [5] Ping An Jun, Peng Kaiping. The positive effects of sunshine music on physical and mental health. *Music Creation*, no. 003, pp. 103-105, 2018.
- [6] Zhang Weixia, Wang Wanqi, Zhou Linshu, et al. The influence of lyrics on the emotional processing of music: A study of behavior and ERP. *Psychology Act*, vol. 050, no. 012, pp. 1346-1355, 2018.
- [7] Yang Ze. The influence of specific negative emotions and the presence of others on the enlightenment effect of the epiphany prototype. *Journal of Southwest University (Natural Science Edition)*, vol. 38, no. 12, pp. 120-127, 2016.
- [8] Yu Ruichen, Du Huijie, Chang Yuan, et al. The positive effects of music education on improving social mood. *Music Time and Space*, no. 021, pp. 173-174, 2018.