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Features of Singing in Chinese Pop and Traditional Music: the Influence of the Music Genre on Vocal Music

Características do canto na música pop e tradicional chinesa: a influência do gênero musical na música vocal

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Abstract: Musical compositions require genre-specific sophisticated performance techniques. This paper focuses primarily on the features of Chinese pop and traditional music, based on the music genre's influence on the vocal music. To achieve this goal, the analysis methods and the Shapiro-Wilk test were used. The study involved 218 music major students from the Beijing International Art School, Shanghai Normal University, and Guangzhou College of Music. The audience and respondents gave less preference to pop music (47% and 39%) compared to the traditional music (53% and 61%). The Shapiro-Wilk test revealed that, when it comes to pop music, the strongest preference was attributed to music geographical spread (0.867), and in the case of traditional music the strongest preference was for higher education (0.927). The paper established the specific features of different genres of music. The most common elements pertaining to pop music include: the option to apply a variety of music elements and singing techniques; rhythm stability; a simple form of vocal performance; extreme sound techniques; preserving the emotionality of the singing; a combination of Western and Chinese elements. Traditional music is characterized by a harmony of music elements and voice timbres, maintenance of the high-pitched voice, natural sound, throat singing, performance quality, preservation of Chinese traditional music elements. Traditional music instruction was

the best thing for improving intonation (0.815), maintenance of sound quality (0.806), and development of vocal range (0.718). Pop music is known for a combination of various music elements (0.901), conveyance of the performance style (0.312). The paper's practical implications boil down to determining the characteristic features of pop and traditional music, as well as elements describing vocal music. Further studies might involve a comparative analysis between Chinese pop music, traditional music, and Western pop and traditional music.

Keywords: Emotionality of singing. Intonation. Rhythm stability. Sound techniques. Vocal range.

Resumo: As composições musicais requerem técnicas de execução sofisticadas específicas do gênero. Este artigo foca principalmente nas características da música pop e tradicional chinesa, com base na influência do gênero musical na música vocal. Para atingir esse objetivo, foram utilizados os métodos de análise e o teste de Shapiro-Wilk. O estudo envolveu 218 estudantes de música da Escola Internacional de Arte de Pequim, da Universidade Normal de Xangai e da Faculdade de Música de Guangzhou. O público e os entrevistados deram menos preferência à música pop (47% e 39%) em relação à música tradicional (53% e 61%). O teste de Shapiro-Wilk revelou que, quando se trata de música pop, a preferência mais forte foi atribuída à dispersão geográfica da música (0,867), e no caso da música tradicional a preferência mais forte foi pelo ensino superior (0,927). O artigo estabeleceu as características específicas de diferentes gêneros musicais. Os elementos mais comuns da música pop incluem: a possibilidade de aplicar uma variedade de elementos musicais e técnicas de canto; estabilidade do ritmo; uma forma simples de performance vocal; técnicas de som extremo; preservando a emotividade do canto; uma combinação de elementos ocidentais e chineses. A música tradicional é caracterizada por uma harmonia de elementos musicais e timbres de voz, manutenção da voz aguda, som natural, canto da garganta, qualidade da performance, preservação dos elementos da música tradicional chinesa. O ensino de música tradicional foi a melhor coisa para melhorar a entonação (0,815), manutenção da

qualidade do som (0,806) e desenvolvimento da extensão vocal (0,718). A música pop é conhecida por uma combinação de vários elementos musicais (0,901), transmissão do estilo de performance (0,312). As implicações práticas do artigo resumem-se a determinar os traços característicos da música pop e tradicional, bem como os elementos que descrevem a música vocal. Outros estudos podem envolver uma análise comparativa entre música pop chinesa, música tradicional e pop ocidental e música tradicional.

Palavras-chave: Emotividade do canto. Entonação. Estabilidade do ritmo. Técnicas de som. Alcance vocal.

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Introduction

The perception and performance of music depends on the music genre, rhythm, and the combination of words and melody that shape the expressiveness of a musical composition (WANG, 2015). The quality of musical performance affects the perception of the audience, who chooses the most acceptable music genres (HU, 2021). Traditional Chinese compositions are described by ethnic traditions, which display timbres created with ethnic instruments to visualize Chinese stories. Western music elements become an integral part of Chinese pop music when combined with traditional compositions to form bel canto vocal techniques (ASKILL, 2017; JIANG, 2018). Pop music takes advantage of the sound quality and vibrancy. At this point of musical culture development, traditional songs are also being transformed to fit the modern system, combining Western and ethnic music elements (ZHI, 2020). This manifest itself in intonation, the manner of performance, vocal placement techniques, affecting the audience's interest in disseminating traditional musical compositions (LAI and WANG, 2022).

Regardless of the genre, Chinese songs are described by complex and multivalued elements that combine Chinese philosophy, religion, and artistic culture (SHIRAISHI *et al*., 2019). The expressiveness of Chinese songs is shaped by the way of thinking, which is materialized through special verbal, tone elements molded in the Beijing dialect (QU, 2018). Traditional Chinese musical compositions are described by diversity, with changes in form, dialect, and the cultural traditions of each region (HARRIS, 2017). For example, tertians and fifths prevail in songs originating in China's southern part, while northern compositions rely mostly on quartal harmony (VERBUČ, 2018).

Chinese pop music is described by the use of a pentatonic scale, but a seven-step structure is used as well (YONGDONG, 2016). The seven-step structure in Chinese vocal performance

is only an additional element to shape the expressiveness of the sounds (YONGDONG, 2016). Traditional compositions are described by an individual performance that is shaped by the extension of the melodic line (LIU and ZHOU, 2021). This promotes the use of shouting, openness of sounds, and the extension of syllables during performance. The special intonation of traditional compositions contributes to the molding of falsetto sounds, grace notes, and the expressiveness of individual phrases (MACROSSAN, 2021). Pop songs also display a national style, which is evident in the songs' folk manner (CHEN and YAN, 2019). Intonation conveys the ethnic style, which directly interfaces with the Chinese language and genre identity. The Chinese vocal style is described by the interplay of words and music (TANG, 2021). The development of sounds during performance is complex and logical, contributing to speech emotionality, which is limited by the language's phonetic features (TANG, 2021).

Chinese professional music was developed in the 20th century, based on folk music, which has an ancient history (CHAN, 2022). The evolution of pop music involved a classification and arrangement of genres, which made it possible to determine the audience preferences (ZHANG *et al*., 2022). In this case, the interaction of folk and modern music elements contributes to a diverse structure. The popular genre of contemporary music is described by a variety of arrangements that shape a modern unique and distinctive musical style (CHAN, 2022). Vocal performance of musical compositions requires conveyance of the compositions' moods, as this contributes to the visualization of the composer's multifaceted emotional experience. The performance of pop compositions is described by a combination of music, dance, and performing arts (QU and XIAO, 2020). Traditional singing conveys spiritual commitment, artistic and aesthetic images, stylistic genres. Singing culture manifests itself in the sophisticated performance, artistic merit, the combination of acting, harmonization of words and music (QU and XIAO, 2020).

Literature Review

Singing has its own specific features, which depend on the genre of musical performance. Available literature was reviewed in order to identify such features. Pop compositions are performed considering aesthetic aspects and soft sounds (QU, 2018). The performance's artistic merit depends on the singer's voice and gender. Women are better in displaying expressive and artistic performance. The female noise helps to achieve the granularity, timbre, articulation of the voice, developing its volume. Development of female noise in the voice maintains the music's ethnicity (QU, 2018). The emotionality of the vocal performance has an impact on the audience's engagement and interest. Traditional teaching approaches (chanting, tongue twisters) are used in China to develop vocal emotionality (ZHANG *et al*., 2021). Digital tools help to trace the quality of self-image and emotionality. As a result of singing, emotions can be divided into positive, negative and neutral. The findings suggest that a performer's better emotional state improves singing (ZHANG *et al*., 2021). Traditional songs are typically performed in academic manner, which preserves the uniqueness of these songs. Such academic manner of performing traditional songs preserves the music rhythm and harmony, as well as special intonation and interplay of words and melody (GORBUNOVA and MEZENTSEVA, 2022).

Chinese folk songs are described by a rich music culture that manifests itself in various practices and festivals. Ancient Miao songs are the most important tools of history and culture. Folk songs rely on melodies' early fading elements, combining text and music morphology, and preserving acoustic parameters during performance (MAO and LIU, 2018). Traditional acoustic parameters are achieved through the use of traditional musical instruments, including drums, pipa, and erhu (MAO and LIU, 2018). Opera and Chinese folk singing are described by sophisticated vocalization techniques that are based on the academic manner of performance and the acoustic parameters of the singing voice. Chinese folk music is known for the recurrent musical and rhythmic

model, which is described by free performance and flexibility (OHANEZOVA-HRYHORENKO *et al*., 2021). Intonation relies on ascending movements, which are described by a high-pitched and vibrant register (OHANEZOVA-HRYHORENKO *et al*., 2021). Chinese folk singing involves the development of the vocal music's acoustic parameters, with the tuning of folk music. To achieve this, singers use an approach consisting of five basic tones that contribute to an irregular singing pattern. Professional singers should maintain their benchmark tone and possible tuning systems (YANG *et al*., 2015).

To convey high notes in musical compositions, the focus is on the main resonator, which contributes to the transmission of vibrations. The air should be used to create musical vibrations. Musical performance involves conveyance of the full range of emotions inherent in the song. Means of expression contribute to artistic performance, which is conveyed through subtle, complex, lyrical and philosophical techniques (AURA *et al*., 2022). The singing voice is described by precise coordination and placement based on the ear training. Vocal placement requires the development of vocal breathing pattern, which is shaped by vocal input. A well-developed imagination is also required during performance, which contributes to the expressiveness of genre-specific musical compositions. Folk songs are described by more lyrical motifs, while pop songs have a variety of motifs (ANGELAKIS *et al*., 2021). Chinese pop music has emotional elements that engage the audience. Emotionality is achieved by maintaining the pentatonic scale, the combination of majors and minors, firm and smooth rhythm, and vibrant performance. The pentatonic scale, which is typical for Chinese music, contributes to the compositions' expressiveness. Singers use a variety of vocal arrangements in the performance of pop music. The vocal arrangements are based on interval jumps (from a pure quarte to a sustained crescendo). These performance approaches during larynx lowering result in high levels of singer's formant and improved vocal clarity (CRUZ and LOUREIRO, 2020).

The analysis established that the major focus in performance of pop music is made on the variation of the voice, the use of

interval jumps. Traditional music, on the other hand, is described by emotionality and the academic manner of performance.

Problem Statement

The paper's primary goal is to determine the special aspects of Chinese pop and traditional songs, described by the vocal performance genre.

The authors had the following tasks:

- determine the popularity of traditional and pop music in China, depending on the extent of popularity, ease of perception, and frequency of use in higher education during training;

- discuss the features of the performance of pop and traditional musical compositions;

- identify the elements that influence the intricacies of musical performance, focusing on the Shapiro-Wilk test.

Methodology

Research design

The research was divided into three parts. The first part determined the benefits of Chinese traditional and pop songs, as perceived by respondents and Chinese residents, according to available information (WIPO, 2022). For this purpose, the percentages of the distributed data were presented in the Results section, and the genre-specific advantages of vocal music were identified using the Shapiro-Wilk test (SCHERLING *et al*., 2022). This test was chosen for the experiment because it included geographical spread, the ease of perception of the melody and lyrics, the applicability of the compositions during training in educational institutions.

The Shapiro-Wilk test was calculated using the following formula:

$$W = \frac{(\sum_{i=1}^{n} a_i x_{(i)})^2}{(\sum_{i=1}^{n} x_i - \bar{x})^2}. \quad (1)$$

where $x_{(i)}$ is the i-th number to calculate;

$\bar{x}$ is the average number to calculate;

a_i is the statistical order coefficient.

Respondents were given 2 business days to provide answers, after which the answers were sent to the authors via WhatsApp. WhatsApp was chosen for this study because it is easy to use, and also enables to track the history of messages, more specifically the questions sent and responses provided. To ensure the reliability of the initially obtained information, WhatsApp accounts were set up for each respondent, thus eliminating the violation of privacy in terms of accessing personal data.

The second part examined the special aspects of Chinese pop and traditional music, relying on analysis, which is one of the top priorities in research when it comes to identifying specific elements from the total volume of information (MARÍN-LIÉBANA and NICOLÁS, 2019). The specific features of pop music include: the option to apply a variety of music elements and singing techniques; rhythm stability; a simple form of vocal performance; extreme sound techniques; preserving the emotionality of the singing; a combination of Western and Chinese elements. Traditional music is characterized by a harmony of music elements and voice timbres, maintenance of the high-pitched voice, natural sound, throat singing, performance quality, preservation of Chinese traditional music elements.

The third part identified the elements that affect the sophisticated nature of musical performance. Focusing on the respondents' answers, the paper relied on the Shapiro-Wilk test to estimate the benefits for the study of Chinese pop and traditional music.

Sample

To study the features of Chinese pop and traditional songs, 218 music students (majoring in singing, music theory, and academic singing) were surveyed. The number of students was not determined in advance, all students who meet the specified criteria and course of study participated in the experiment. Formal music training allowed students to learn music theory, vocal performance, and become musical experts. The survey was conducted among graduates of music programs (Beijing International Art School, Shanghai Normal University, Guangzhou College of Music). The sampling criteria did not apply to a limited number of male and female respondents, since the study examines the specific nature of traditional and pop vocal music, omitting the gender aspect. Music education was mandatory for the participants of the experiment. Invitations were sent to potential respondents in a number of Chinese music universities, and graduates in the designated music majors were selected. Based on the submitted applications, 298 students were to participate in the study, but 80 of them did not meet the eligibility criteria pertaining to the major or course of study. Respondents provided their written consents to participate in the study, in line with ethical standards.

Statistical processing

Statistical processing was performed in Microsoft Office suite, which allowed the numerical data to be combined with each other, enabling to apply the Shapiro-Wilk test.

Ethical issues

The research got an insight into the ethical issues that should be adhered to when writing papers. The authors confirm that all respondents were made aware of the applicable rules before the experiment began (COMMITTEE ON PUBLICATION ETHICS, 2022).

Research limitations

The limitations stem from the fact that the paper addresses Chinese pop and ethnic vocal music, omitting Western vocal music. Such limitations did not get in the way of delving into the specific nature of vocal performance of pop and traditional compositions, and helped to identify elements that affect the complexity of performance.

Results

Chinese music is described by rich vivid elements that depict social phenomena occurring in China at different time periods. The Chinese music is broken down into traditional, operatic, pop, revolutionary, and other genres, each with own history. Review of available literature helped to determine the most popular songs in China (pop or traditional music), and the causes for their popularity (Table 1).

Table 1 - Which songs are most popular among the audience?

Kind of music	Preferences among Chinese residents, %	Preferences among respondents, %	Benefits of music, as calculated based on the Shapiro-Wilk test			
			Popularity	Ease of perception	Higher education	Prescribed value
Popular	47%	39%	0.867	0.683	0.541	<1
Traditional	53%	61%	0.722	0.469	0.927	<1

Resource: Results compiled by the authors based on data from the WIPO (2022)

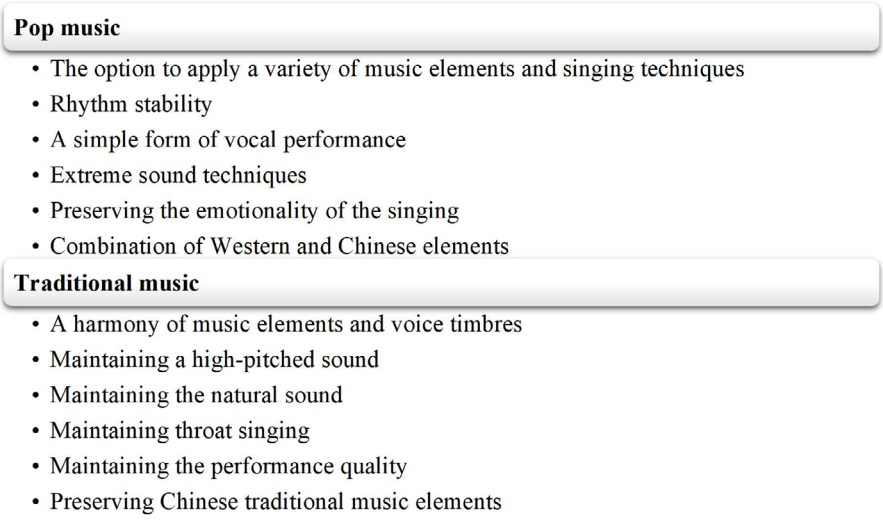
The analysis determined that traditional music is more popular among Chinese residents (53%) as compared to pop music (47%). The same results are observed among music experts (respondents), with 61% for traditional singing and 39% for pop music. These distinctions are attributed to the popularity of compositions, their memorization, pleasant tune, teaching in

schools and music universities. At this point the benefits of music were calculated using the Shapiro-Wilk test, based on respondent data. The findings determined that when it comes to pop and, of course, vocal music, geographical spread is one of the greatest advantages, according to the Shapiro-Wilk test, which is 0.867. Ease of perception (0.683) is also important for the popularization of such music, because it helps to remember the simple melodies used during performances and leisure activities. Higher education is less common (0.541), since traditional compositions are mostly used in music studies.

Traditional Chinese musical compositions are most commonly used in music education (0.927) because their rich musical elements contribute to cultural preservation which is important to Chinese art. The high prevalence of traditional musical compositions (0.722) is explained by their use not only in music education, but also in operas, being common among modern performers who modify the accompaniment of compositions. The ease of perception is ranked third among the three presented indicators (0.469).

Focusing on the prevalence, ease of perception and learning of musical compositions in universities, the paper identified the features and differences of Chinese pop and traditional vocal music, based on the characteristic features of music genres (Figure 1).

Figure 1 - Features of traditional and pop music



Pop music is described by a free manner of performance, which can adjust to the singer's capabilities. The application of various musical elements in the performance of pop music differs from their application in traditional music. This is because pop music makes it possible to combine different tonalities and rhythm that do not depend on the tone row structure, which should be adhered to in traditional Chinese music. However, Chinese pop vocal music requires considering the voice rhythm stability, which involves the use of different rhythm within the same musical composition. Therefore, the performers should learn the vocal variety skills. Despite these intricacies of vocal performance, Chinese pop music is known for the simplicity of performance that does not depend on the pentatonic scale, academic manner, etc. Unlike traditional music, the performance of pop music requires the use of extreme singing techniques, more specifically growling (imitation of animal sounds) and *Schrei* (resembling the wolf's voice). To keep the audience engaged, pop singers should adhere to the emotionality of singing, which is also typical for traditional music.

Traditional music is performed with a harmony between the vocal timbre and music elements (rhythm, tone, pleasant tune). Traditional compositions are performed with a high-pitched voice. This is because traditional compositions have vibrant elements, which require falsetto. Natural sound is one of the most important elements of Chinese vocal music, because it can capture the sounds of nature, its pleasant tune, and preserve the uniqueness of Chinese music. Throat singing for vibrant melodies. Throat singing has an unconventional articulation when it comes to the main and supplementary chant. In this case, throat singing combines low-pitched sound and a high-pitched voice, which is performed within the framework of the natural tone row. In traditional music, it is important to stick to the sound quality, as opposed to the emotionality of singing in pop music. The sound quality contributes to the correct pitch and length of sounds, which is typical for the traditional system of notes and allows musical compositions to sound in their own way. Performance of traditional Chinese songs

also requires adhering to the characteristic music elements that make up the basis of the music (pentatonic scale, the harmony of music and lyrics). The interplay of these elements is described by the special properties of the Chinese language, which makes the tonal pattern smoother, securing proper intonation during performance of musical compositions. Where a combination of tone language and music is impossible, the singer applies own vocal capabilities to vary the tonality.

The final phase of the study identified the elements that are most difficult to reproduce within pop and traditional musical compositions. To implement this step, we used the Shapiro-Wilk test calculation according to formula 1 (Table 2).

Table 2 - Elements affecting the complexity of musical performance

Music parameter	Pop music	Traditional music
Intonation	0.639	0.815
A combination of various music elements	0.901	0.392
Preserving the sound quality	0.473	0.806
Vocal range development	0.283	0.718
Conveyance of the performance style	0.312	0.296

The paper revealed that it was easier to develop vocal intonation features in traditional music (0.815) compared to pop music (0.639). This is because traditional music is described by a restrained performance style, while pop music is characterized by a combination of different styles, which requires delving into the standards of intonation in a variety of performance styles. Learning to perform and combine various music elements is easier in the case of pop music (0.901) than in traditional music (0.392), because traditional music is described by a restrained performance style, where changes in melodies and rhythmic sound should be introduced with caution. Sound quality is easier to achieve in traditional music (0.806) than in pop music (0.473) because of the academic manner of singing, its expressiveness. Vocal range is also

easier to develop for singers who perform traditional music (0.718) because it has many elements that require falsetto. It is easier to convey the performance style in pop vocal music (0.312), which involves the variation of music elements. Establishing the difficulty of performing musical parameters was based on checking the respondents' capabilities and the paper authors' expertise.

Discussion

The paper analyzed the special aspects of singing depending on the genres, focusing on previous publications. Pop vocal music, which is performed without words, is better remembered than instrumental tunes, which are typical for traditional music. This process is attributed to the fact that vocal music is described by subvocal imitation, which enhances the expressiveness of melodies. Loud whispering promotes spontaneous phase synchronization of musical rhythm and improves music-related memory (WEISS *et al*., 2021). Statistical elaboration of the singing transcription reveals pitch and rhythm. The pitch has been improved by transcription of the singing voice and the reliance on traditional compositions. Development of the vocal range is based on the naturalness of performance, the use of soft and clear sound (HIRAMATSU *et al*., 2021). The singing voice is characterized by a simple structure of sounds, with pronounced words and tonality. Western music has a simple structure of sounds, contributing to the pronunciation of words and the recognition of pitch. Popular Western music is described by a correlation of various musical styles, which affects the tone of the singer's voice and the uniqueness of the music (BASTANFARD *et al*., 2020). This paper focuses primarily on the characteristic features of the performance of pop and traditional music.

Voice pitch is produced by the larynx, the muscles of which determine the performance's quality. The uniqueness of falsetto singing is also achieved with an individual timbre. Proper breathing pattern and articulation should be developed to achieve the sound quality. A high-pitched voice requires a thoracic and head

resonator, which contributes to the pitch and the expressiveness of the singing. Low-pitched voice involves simultaneous use of all resonators, which gives power to the sound and lightness at the same time (BELYK *et al*., 2018). Pop songs require a unique voice, which will be different from the others and keep the audience engaged. The uniqueness of the voice is achieved through timbre. The voice timbre is shaped by the intonation and sound variations capabilities. The timbre affects the voice emotionality and the language phonetics. To achieve a muffled sound during singing, the sound should originate from the back of the mouth. A resonant voice involves the use of a timbre described by rhythmic clamping of the vocal cords in terms of frequency and amplitude (XU *et al*., 2022). Musical performance is a type of recreational activity that includes singing and accompaniment on musical instruments. The pop composition's artistic merit depends on the sound effects that shape its emotionality through intonation and voice physiology. The singing technique is regulated by the breathing pattern. Breathing should be predominantly diaphragmatic. The performance of pop songs is a singer's arbitrary action (SUN, 2022). This paper identified the musical parameters that affect the intricacies of musical performance.

Vocal imitation techniques promote the audience engagement with pop or traditional music. Vocal imitation is shaped by maturity of speech and singing. Singing is affected by pitch and length of tone, which also influences the length of performance (WANG *et al*., 2021). Traditional Chinese vocal performance relies on accompaniment by musical instruments, which determines the pitch. Musical instruments also affect the compositions' rhythm and emotionality. Chinese musicians tend to play the same sound in different variations, tonalities, and on different instruments. This contributes to the expressiveness and vibrancy of the vocal performance (YANG and LEE, 2018). Traditional vocal music in East Asia is described by cultural values with distinctive performance. Aesthetic performance is achieved through spiritual intelligence and intonation. The intonation pattern influences the performance's tonal structure, the tone buildup principle (MOK, 2019).

The discussed papers focus primarily on intonation. This research addressed the prevalence of musical compositions among respondents and residents of China, as well as the characteristic features of pop and traditional music performance.

Conclusions

In order to outline the characteristic features of performing Chinese songs, the audience benefits were identified in terms of Chinese pop and traditional music. 53% of Chinese music listeners prefer traditional music, while 47% prefer pop music. 39% of respondents prefer pop music, and 61% prefer traditional music. The Shapiro-Wilk test suggested that when it comes to Chinese pop music, its prevalence is of the greatest importance (0.867), followed by the ease of perception (0.683) and learning in higher education (0.541). As for traditional music, greater importance is given to higher education (0.927), geographical spread (0.722), with less importance given to the ease of perception (0.469).

The paper also identified the characteristic features of pop and traditional music. Pop music is described by: the option to apply a variety of music elements and singing techniques; rhythm stability; a simple form of vocal performance; extreme sound techniques; preserving the emotionality of the singing; a combination of Western and Chinese elements. Traditional music is characterized by: a high-pitched sound; a natural sound; throat singing; the performance quality; preserving Chinese traditional music elements. Pop music involves the use of various musical elements. Traditional music is known for aesthetics and natural performance.

The research also determined that performing traditional music was the easiest way to learn intonation skills (0.815), maintain sound quality (0.806) and develop the vocal range (0.718). When performing pop music, it is easier to learn to combine various musical elements (0.901), and to convey the performance style (0.312). The paper's practical implications involve application of its

findings in the development of pop and traditional vocal music. Prospects for further research are based on the possibilities of comparative analysis of the influence of genre on vocals not only in Chinese music, but also in the music of other countries. In addition, the directions of folklore music, the gender aspect in vocals and the problems of multiculturalism in modern music are promising.

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