

# Vocal Technique Processing and Performance of Works Based on Vocal Music Psychology

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## Abstract

This article aims to investigate (1) how to understand and interpret the role of vocal psychology in vocal performance, and (2) how to utilize individual vocal performance psychology to improve sound technology processing and work performance. In order to ensure the objectivity, authenticity, and universal validity of the research results, the population sample of this study was selected from vocal students, vocal teachers, experts, and scholars from different music colleges and universities in different regions of China. Collect receipts by conducting a reliable questionnaire survey on the population sample, and analyze the data through SPSS. Analyze data through descriptive statistics and content analysis. The research results are as follows: 1. From the perspective of vocal psychology, imagination, memory, attention, personal emotions, and personal willpower are important works for vocal performance. 2. Vocal performance is a movement process that combines various psychological factors (such as perception, thinking, attention, memory, imagination, emotion, etc.) of the performer with physiological organs and muscle tissues of the body. Reasonably allocating the proportion between singing physiology and singing psychology can ensure the smooth progress of vocal singing and make the performance moving and vivid.

**Keywords:** *Vocal psychology; Technical processing; Singing performance.*

## INTRODUCTION

Vocal psychology emerged and developed relatively late, belonging to an emerging interdisciplinary discipline that has undergone rapid development in the past century. Domestic and foreign scholars' research on this discipline is still in its early stages. Relatively speaking, foreign research results have more perspectives and richer levels, but still face limited depth and breadth. Since the 18th century, some works have been related to the study of teaching concepts and models in vocal psychology. For example, The School of Music

Singing Law (written by Famengozi and Gallas in France), Singing Law (written by Jarod in Czech Republic), The Complete Works of Singing Art (written by Garcia in France), The Art of Singing (written by Lambertti in Italy), etc., all elaborate on the content of vocal psychology, explaining how to better apply it in vocal teaching practice and singing. In the late 19th century, Banyamino Quilli's Introduction to Learning Singing, Herbert Casali's Science and Sensation of Singing, and Marafeudi's Caruso's Vocal Method discussed the role of psychological factors in singing from different perspectives, proposing to rely on a good

mental state to guide and control the voice. Afterwards, more and more scholars gradually joined the study of the impact of psychology on vocal music, laying an important theoretical foundation for the development of vocal psychology. Under the influence of these studies, more and more scholars fully recognized the inherent relationship between vocal singing and psychology, and devoted more energy to the study of vocal psychology. However, in China, vocal teachers, singers, and researchers focus their important attention and energy on studying singing techniques from a physiological perspective, with less attention paid to the role of psychological factors in singing. The construction of vocal psychology in China has only been limited to 40 years, and the theory and practice of vocal psychology have not yet been well integrated. Therefore, starting from the theoretical perspective of vocal psychology, this article analyzes and studies the sound technology processing and vocal performance in vocal singing, in order to help learners enhance the scientific nature of vocal singing from the perspective of physical and mental integration, and provide theoretical reference for the development of vocal art in China.

### Research objectives

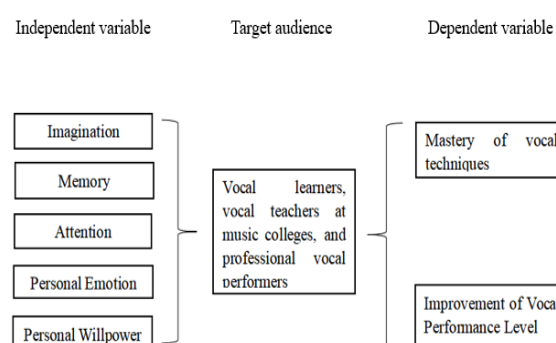
1. What psychological factors affect vocal performance practice?
2. How to utilize individual vocal performance psychology to improve sound processing and performance of works

### Conceptual framework

This article is based on the basic guidance of music psychology by German philosopher and psychologist Stumpf, Friedrich Carl (1834-1936) (1883), and combined with the vocal psychology theory of Chinese scholar Xu

Xingxiao (2003), the independent variables are set as imagination, memory, attention, personal emotions, and personal willpower. The dependent variable is set as the mastery of vocal techniques and the improvement of vocal performance level. The target audience is vocal learners, vocal teachers from music colleges, and professional vocal performers. The specific research framework is shown in the following figure.

**Figure 1. Conceptual framework**



### Research methodology

According to the research object, content and nature, this paper uses a combination of qualitative research and quantitative research methods. Qualitative research mainly obtains information and conclusions by analyzing relevant literature. The questionnaire was designed based on the content of qualitative research. Quantitative research obtains data through questionnaire survey, and then makes statistics and analysis of the data. The results of the data are used as evidence and supplement for qualitative research to ensure the objectivity of this research. Finally, the results of qualitative research and quantitative research are compared and evaluated, and they are taken as the basis of the research in order to draw more accurate research conclusions.

In the qualitative research part, first of all, starting from the imagination, memory, attention, personal emotion and will quality of vocal performers, the psychological process and individual psychology of individual vocal performance will be analyzed. Starting from the specific level of performance practice, the specific effect of vocal psychology on the mastery of vocal music technology and the improvement of vocal performance level will be grasped, and the experience and shortcomings will be summarized, provide specific discussions on the sound technology processing and psychological characteristics presented in vocal teaching and performance, in order to provide better opinions and suggestions for vocal performance.

Quantitative research mainly obtains research data through questionnaire surveys. The survey subjects of this project are mainly theoretical researchers related to the vocal music

profession, as well as teachers and students. The questions in the survey questionnaire revolve around the content of this study and the knowledge structure of the survey subjects, striving to be accurate and comprehensive, ensuring that the obtained information can truly reflect the objective understanding of the vocal psychology of the survey subject group.

The questionnaire survey content is strictly formulated according to the set independent and dependent variables, and meets the reliability and validity standards. The specific reliability and validity results are shown in the following figure:

**Table 1 Reliability Statistics**

	Cronbach Alpha	number of terms
Total questionnaire	0.917	24

**Table 2 Validity Analysis**

KMO and Bartlett inspection				
Total questionnaire	KMO quantity	sampling suitability		0.896
	Bartlett sphericity test	Approximate square	chi	5882.223
		free degree		276
		significance		0.000

## Research result

In correlation analysis, this study identifies the direction and strength of the relationship between variables. Table 3 presents the correlation analysis of the main variables in this article. \* represents a significant difference of less than or equal to 0.05 between the corresponding two variables. \*\* representing a significant difference of less than or equal to 0.01 between two variables. When the correlation coefficient is greater than 0, it

indicates a positive correlation between two variables. When it is less than 0, it indicates a negative correlation between two variables. When the coefficient is 0, there is no correlation between two variables. When the coefficient is equal to 1, it indicates a complete correlation between two variables. When the coefficient is -1, it is completely negative. The larger the absolute value, the higher the correlation. In this study, the main focus is on the correlation analysis between imagination, memory,

attention, emotional abundance, willpower, level. The specific results are shown in the table below.

**Table 3 Correlation Analysis**

		Imagination	Memory	Attention	Emotional Abundance	Will Quality	Vocal Skills mastery	Vocal Performance Level
Imagination	Pearson correlation	1	.620**	.373**	.277**	.377**	.420**	Imagination
	Significance (Double tailed)		.000	.000	.000	.000	.000	.000
	Number of cases	381	381	381	381	381	381	381
Memory	Pearson correlation	.620**	1	.681**	.535**	.435**	.602**	Memory
	Significance (Double tailed)	.000		.000	.000	.000	.000	.000
	Number of cases	381	381	381	381	381	381	381
Attention	Pearson correlation	.373**	.681**	1	.467**	.341**	.571**	Attention
	Significance (Double tailed)	.000	.000		.000	.000	.000	.000
	Number of cases	381	381	381	381	381	381	381
Emotional Abundance	Pearson correlation	.277**	.535**	.467**	1	.272**	.591**	Emotional Abundance
	Significance (Double tailed)	.000	.000	.000		.000	.000	.000
	Number of cases	381	381	381	381	381	381	381
Will Quality	Pearson correlation	.377**	.435**	.341**	.272**	1	.367**	Will Quality
	Significance (Double tailed)	.000	.000	.000	.000		.000	.000
	Number of cases	381	381	381	381	381	381	381
Vocal Skills mastery	Pearson correlation	.420**	.602**	.571**	.591**	.367**	1	Vocal Skills mastery
	Significance (Double tailed)	.000	.000	.000	.000	.000		.000
	Number of cases	381	381	381	381	381	381	381
Vocal Performance Level	Pearson correlation	.444**	.595**	.497**	.415**	.426**	.289**	Vocal Performance Level
	Significance (Double tailed)	.000	.000	.000	.000	.000	.000	
	Number of cases	381	381	381	381	381	381	381

On the basis of correlation analysis, regression analysis is conducted to further reflect the quantitative relationship between variables with strong correlation. The correlation

analysis results of the five independent variables for the dependent variable vocal technique mastery are as follows

**Table 4 Model Summary**

model	R	R <sup>2</sup>	Adjusted R <sup>2</sup>	Error in standard estimation	Change Statistics		free degree1	free degree 2	Significance F Variation
					R <sup>2</sup> Variation	F Variation			
1	.713	.508	.501	.610	.508	77.389	5	375	.000

The results showed that R<sup>2</sup> was 0.508, and the adjusted R<sup>2</sup> was 0.501. The percentage of independent variable explained by R<sup>2</sup> to dependent variable, and the closer its value is to 1, the better the regression equation fits the

data. From this, it can be seen that the regression equation has a good fit.

Significant results affecting overall regression analysis.

**Table 5 ANOVA**

Model		Sum of squares	free degree	mean square	F	significance
1	regression	144.141	5	28.828	77.389	.000
	residual	139.691	375	.373		
	total	283.832	380			

It can be seen from the above table that the observed value of F-test statistics is 77.389, and the corresponding probability P value is 0.000. According to the results of this table, the significance test of regression equation can be carried out. The significance level of this study

is 0.05. Since the P-value is 0.000, which is less than 0.05, it can be considered that the regression coefficients are 0 when they are different, and the linear relationship between variables is significant. A linear model can be established.

**Table 6 Coefficient Table**

Model		Unstandardized coefficient		Standardized coefficient		significance
		B	Standard error	Beta	t	
1	(Constant)	.046	.221		.209	.835
	Imagination	.108	.046	.110	2.345	.020
	Memory	.152	.063	.151	2.414	.016
	Attention	.222	.048	.236	4.674	.000
	Emotional abundance	.454	.057	.347	7.940	.000
	Willpower	.085	.041	.085	2.069	.039

According to the results in the table above, it can be seen that "imagination", "memory", "attention", "emotional abundance", and "willpower" have an impact on the dependent variable "vocal skill mastery". At this point, our regression equation is: vocal skill mastery=B+

$\beta$  Imagination+  $\beta$  2 Memory+  $\beta$  3 Attention+  $\beta$  4. Emotional Abundance++  $\beta$  5 willpower qualities.

The above results can be derived from the regression equation: mastery of vocal music

technology=0.108 × Imagination+0.152 × Memory+0.222 × Attention+0.454 × Emotional Abundance+0.085 × will quality. Imagination, memory, attention, emotional abundance, and willpower all have a significant

positive predictive effect on vocal skill mastery.

The correlation analysis results of the five independent variables for the dependent variable vocal technique mastery are as follows

**Table 7 Model Summary**

model	R	R <sup>2</sup>	Adjusted R <sup>2</sup>	Error in standard estimation	Change Statistics		free degree1	free degree 2	Significance F
					R <sup>2</sup> Variation	F Variation			
1	.645	.416	.409	.999	.416	53.531	5	375	.000

The results showed that R<sup>2</sup> was 0.416, and the adjusted R<sup>2</sup> was 0.409. The percentage of independent variable explained by R<sup>2</sup> to dependent variable, and the closer its value is

to 1, the better the regression equation fits the data. From this, it can be seen that the regression equation has a good fit.

**Table 8 ANOVA**

Model		Sum of squares	free degree	mean square	F	significance
1	regression	267.025	5	53.405	53.531	.000
	residual	374.121	375	.998		
	total	641.146	380			

It can be seen from the above table that the observed value of F-test statistics is 53.531, and the corresponding probability P value is 0.000. According to the results of this table, the significance test of regression equation can be carried out. The significance level of this study

is 0.05. Since the P-value is 0.000, which is less than 0.05, it can be considered that the regression coefficients are 0 when they are different, and the linear relationship between variables is significant. A linear model can be established.

**Table 9 Coefficient Table**

Model		Unstandardized coefficient		Standardized coefficient		significance
		B	Standard error	Beta	t	
1	(Constant)	-1.572	.362		-4.337	.000
	Imagination	.167	.075	.114	2.218	.027
	Memory	.434	.103	.287	4.212	.000
	Attention	.205	.078	.145	2.637	.009
	Emotional abundance	.224	.094	.114	2.393	.017
	Willpower	.270	.068	.178	3.997	.000

According to the results in Table 11 above, it can be seen that "imagination", "memory", "attention", "emotional abundance", and "willpower" have an impact on the dependent variable "vocal performance level". At this time, our regression equation is: vocal performance level =  $B + \beta_1 \text{Imagination} + \beta_2 \text{Memory} + \beta_3 \text{Attention} + \beta_4 \text{Emotional Abundance} + \beta_5 \text{willpower}$  qualities.

vocal performance level =  $-1.572 + 0.167 \times \text{Imagination} + 0.434 \times \text{Memory} + 0.205 \times \text{Attention} + 0.224 \times \text{Emotional Abundance} + 0.270 \times \text{will quality}$ . Imagination, memory, attention, emotional abundance, and willpower all have a significant positive predictive effect on vocal skill mastery.

## Discussion

The above results indicate that the five independent variables taken, namely imagination, memory, attention, personal emotions, and personal willpower, play an important role in mastering vocal skills and improving performance levels. Based on this, the discussion part will discuss the specific functions of these five independent variables in detail in combination with qualitative research.

**Imagination:** In the process of singing, the internal connection between music and life is established through imagination, which is a product created based on psychological factors such as the singer's perception and emotions. Imagination in singing is rich and all-encompassing, and the voice of a singer is one of the contents of imagination. The personality characteristics of different singers bring different auditory feelings to the audience. In addition, the images depicted in the lyrics vary in the imagination of different audiences. The imaginary space formed by singing is a sound representation based on singing thinking, and imagination is the foundation and key. Singers

should clarify the texture of their voice before singing. Imagination of sound is related to the effect of sound production. The understanding and imagination of the images presented and the emotions expressed in the lyrics is one of the contents of singing imagination. In addition, imagination is related to personality traits, life experience, knowledge level, education level, and life experience, and is influenced and restricted by these factors. Therefore, singers should be clear about the inseparable relationship between music and life, broaden their knowledge while learning vocal music, and have extensive exposure to different types of cultural and artistic works; More careful observation and recognition of life, acquisition and accumulation of richer experience from life, and accumulation of more materials for singing and work creation. These are all sources of inspiration and imagination. During singing, the singer should fully mobilize existing imaginative materials and carry out artistic processing to build imaginative images.

**Memory:** Memory is the process of preserving historical experiences and lessons by the human brain, which together with perception, thinking, imagination, and emotions affects human psychology. It is an indispensable link for humans to acquire new abilities and summarize new experiences. Singing art is the organic combination of singer's psychological activities and physiological functions. Singers use memory to continuously accumulate experience and improve their singing skills. Singing memory is the ability of a singer to preserve and reproduce singing in the brain. Singers use vocal music knowledge and historical experience to continuously preserve features such as singing techniques, intonation, melody, and song structure in the cerebral cortex. Then, through memory, the singer

expresses the profound meaning of the song to the audience through singing.

Singing memory, similar to other human memories, requires repeated cognition to remain in the human brain, and is generally divided into memorization, retention, recognition, and reproduction. Although individual differences in human beings lead to differences in cognitive and memory abilities, and different singers may exhibit different levels in singing art activities, singing memory can supplement the singer's own memory. Therefore, mastering singing memory is the key to improving the level of artistic activities such as training and singing for singers.

Singing memorization is the beginning of the cultivation of singer's memory, and is the cornerstone of singing reproduction and reproduction. Continuously accumulating basic knowledge and establishing effective memory memorization are important means to improve the memory ability of singers. Memory is a process of establishing and maintaining an impression of external things reflected in the brain, characterized by continuous expansion in the temporal dimension.

In the process of singing learning, singers need to remember the correct singing voice. For example, singers refer to teacher demonstrations, recording influence materials, and vocalizing exercises to continuously conduct vocalizing exercises and singing, prompting singers to vocalize through the interaction of subjective consciousness and objective behavior. Integrating factors such as time, space, and auditory system, singers can produce a correct voice. Singers adjust their voices through repeated practice, comparison, experience, understanding, and other processes to establish accurate sound concepts. Singers also need to memorize their physiological

perceptual motor abilities, such as the ability to perceive and memorize the body language of organs such as vocalization, respiration, and resonance during the singing process. Singers use the advanced nervous system to perceive complex physiological functional motor states and processes, and use perceptual ability adjustments to perform singing activities. Singers also need to remember mental activity changes such as thinking, emotions, emotions, imagination, association, and attention. With effective memorization, singers can transform their singing memory from unintentional memorization to conscious memorization, using repeated and scientific practice processes to improve their singing ability.

**Attention:** Attention plays an important role in human cognition and is a choice made by people based on their understanding of external things. When completing any activity of work and entertainment, attention will be focused on this event at a specific time, mobilizing psychological factors such as perception and memory to participate in it. Therefore, attention is characterized by directionality, stability, and concentration.

Singing is an important vocal art. Singers need to fully present the content and emotions of their works. Therefore, they should focus their attention in vocal singing, avoid the impact of external things on singing activities, and be able to better engage in singing art performances. Concentration in the process of singing reflects the characteristics and attributes of attention. Singers should focus their attention on the singing behavior itself within a specific time, in order to better develop the singer's level. The attention in singing reflects the behavior direction guided by the singer's psychological state, and also has the characteristics of directionality and stability. These characteristics are intrinsically related



and integrated with each other, as well as with other psychological factors in the singing process, making singing activities more smooth.

For example, if a singer focuses on the process of breathing, their perception, memory, and imagination activities will focus on the process of breathing during singing; If the singer needs to adjust his singing mood, his attention will turn to emotion. Therefore, attention is the main reason for the psychological activities of singers. The internal psychological activities of a singer are determined by attention, and the focus of attention is the focus of psychological activities. Therefore, attention is an important means of directing psychological activities, which can ensure that psychological activities remain active.

When singing vocal music, the singer's attention presents a comprehensive and multi-directional distribution form. The key points in singing are as follows:

First, singing content. The content of a song is closely related to psychological emotions, singing state, behavior, etc., and is an important element in vocal music singing. Singers should devote enough attention to the singing content, gain a comprehensive and in-depth understanding of the creative background and purpose of the work, better understand the deep connotation of the work itself, and be able to engage in the singing content in an accurate physical and mental state.

Second, a correct understanding of the inner emotions of the work and the ability to express emotions through psychological and physical mobilization. Singing is the external expression of psychological activities, which conveys emotions through language and other forms. Through the role and influence of attention, the emotional emotions presented in the song

content will change as they occur. Note that differences in targeted content can lead to emotional differences, so emotional emotions make corresponding changes based on changes in content.

Third, adjust the physiological functions related to vocalization to the optimal state. Regulate and control different vocal organs, nervous system, muscle tissue, etc. to maintain the optimal state of motion, and skillfully and flexibly adjust the timbre, pitch, rhythm, and rhythm of the voice. The singing process is not simply a requirement for human organs to vocalize, but rather a more complex and systematic process with a higher degree of integration. Singers, with intentional attention, independently regulate the tone, tone, and pitch of their voices to achieve a physical state that allows them to perform at a normal singing level.

Fourth, point all psychological factors to singing activities. The psychological elements include memory, thinking, etc. The attention of the singer focuses on the above elements in the singing movement.

In summary, singing attention is closely related to the entire process of singing movement. An accurate and reasonable grasp of the characteristics and functional rules of attention can help improve the efficiency of psychological activities and enable singers to achieve a higher singing level.

Abundance of personal emotions: In a broad sense, emotion is equivalent to emotion, which is an attitude experience formed by people based on their comprehensive judgments of things. In a narrow sense, emotions refer to complex and stable attitudinal experiences based on people's social needs. In a narrow sense, emotions have the following connotations: first, feelings and experiences of

emotions and activities. The second is to reflect transient and intense situational emotions. Therefore, both emotions and emotions reflect a person's attitude towards things, and there are close connections and differences between the two. It is generally believed that both arise from the same activity. Art is the carrier of people's spiritual pursuit, reflecting the process of the emergence and development of spiritual civilization, which also carries emotions and emotions. Singing belongs to the art of sound, and its advantages lie in using singing to convey and express emotions and stimulate emotional resonance within the audience.

During the singing process, it is crucial for the singer to express the emotions carried in the song and accurately grasp the emotions and connotations of the work, otherwise it is easy to produce expressions that are inconsistent with the emotions of the work. At the same time, vocal performers need to regulate their emotions so that their expression can be captured by the audience, so during singing, it is necessary to present the emotions of the work.

**Personal willpower :** Personal willpower refers to a person's qualities such as willpower, perseverance, firmness, self-control, determination, and perseverance. These qualities can affect a person's behavior and decision-making, determining whether they can adhere to their goals and beliefs, overcome difficulties and challenges, and achieve their ideals. Common personal willpower can be described in the following aspects: First, willpower refers to a person's ability to control their own behavior and decision-making. Having strong willpower can help a person overcome difficulties and challenges and pursue their own goals. Perseverance refers to a person's ability to persevere and unswervingly pursue their goals in the face of

difficulties and setbacks. Firmness means that one's decisions and beliefs are not easily influenced by the opinions or circumstances of others. Self control refers to the ability of a person to control their emotions and behaviors to achieve their goals. Determination refers to a person's determination to pursue their goals and not to give up easily. Perseverance refers to a person's ability to consistently pursue their goals, constantly strive and persevere. Personal willpower is an important component of a person's success. It can help a person overcome challenges and difficulties and achieve their goals. Personal will quality plays an important role in vocal music performance.

Firstly, vocal music performance requires the performer to have firm determination and perseverance, because vocal music performance is an art that requires constant practice and performance, requiring the performer to constantly overcome difficulties and challenges. Strong determination and perseverance can make performers not give up easily in the face of setbacks and difficulties, thereby continuously improving their performance level.

Secondly, vocal music performance requires the performer to have the ability of self control and self-discipline. During performance, performers need to control their emotional and physical state in order to achieve the best performance results. At the same time, vocal music performance also requires performers to have a disciplined attitude in their daily learning and practice, maintain stable learning and practice habits, and continuously improve their performance level.

Finally, vocal music performance requires the performer to have confidence and courage. Performers need to demonstrate their strength and charm on the stage, face the gaze and

evaluation of the audience, and therefore have sufficient confidence and courage in their hearts. Only performers with confidence and courage can fully demonstrate their strength and charm on the stage, winning the recognition and support of the audience.

## Conclusion

Vocal music is a discipline that integrates ideological, artistic, and scientific aspects. Singing is not simply a physical skill exercise, but a process in which the singer's physiology and psychology coordinate and coordinate their movements. British educator Lucie Mannan once said that singing is the artistic expression of human true emotions. The application and cultivation of psychological factors also play an important role in vocal singing and learning. Singing activities cannot be separated from the influence and constraints of the singer's own psychological activities. Because when singing, any organ of the body is dominated by the central nerve, which is related to the "feeling" of the cerebral cortex. All human stimuli are analyzed and processed by the cerebral cortex, and then these stimuli are associated with various body activities. If the new connection is inconsistent with the requirements of the internal and external environment of the body and the nervous system, the brain will have a "inhibitory" effect, which will limit the level of excitement and affect the singer's grasp of the work. Singing is influenced by the singer's emotion, character, emotion, will, consciousness and other psychological factors. Famous vocal educator and theorist Mr. Zou Changhai said, "Singing is both physiological and physical, but ultimately it is psychological." It can be seen that psychological factors play a crucial role in vocal learning and singing. Studying the psychological issues of singing is beneficial for us to better understand the importance of

psychological factors in vocal learning and singing, thus mastering the laws of singing psychology, inspiring us to use psychological means to regulate and control the physiological skills of singing and vocalization, improving the efficiency of vocal learning, improving the level of vocal singing, and improving the quality of vocal teaching.

The correct guidance of psychological factors in singing is the key to the learning and practice of singers. Singing is an effective vocal movement carried out between the physiological organs of the singing body under the control of the singer's psychological activities. In vocal music practice, singing activities are a combination of physiological and psychological activities of the body, and both are interdependent and indispensable. Due to the current vocal education mainly focusing on the training of physiological skills and skills, neglecting the guidance and training of singers' correct psychological activities, the psychological quality of learners is relatively poor, and their singing psychological ability is weak. For example, some students have a solid foundation in singing physiology and vocal skills, and usually perform well in the classroom. However, when participating in practical activities such as artistic performances, concerts, or vocal competitions, they show many problems (such as inaccurate pronunciation when running or changing intonation, forgetting lyrics, hoarseness in vocal music, and breathing disorders). The main reason for these problems is the lack of guidance from a good singing psychology, causing psychological tension in singing, leading to an imbalance in the command function of the nervous system, resulting in a series of negative singing behaviors; Moreover, if the singer fails to provide timely psychological counseling or solid vocal skills, it may lead to psychological fear, stage fear,

and aversion to learning. As vocal music is a relatively complex discipline, its artistic practice activities cannot be separated from singers consciously guiding their singing psychological factors (such as singing perception, thinking, memory, imagination, and emotions) to make correct subjective reactions, and combining them with the objective physiological movements of the singer's body, resulting in a performance art activity that combines sound and emotion. Therefore, singing is a movement process that combines various psychological factors (such as perception, thinking, attention, memory, imagination, emotion, etc.) of the singer with the physiological organs and muscle tissues of the body. Reasonably allocating the proportion between singing physiology and singing psychology can ensure the smooth progress of vocal singing and make the performance moving and vivid.

Studying the psychological issues of singing is beneficial for us to better understand the importance of psychological factors in vocal learning and singing, thus mastering the laws of singing psychology, inspiring us to use psychological means to regulate and control the physiological skills of singing and vocalization, improving the efficiency of vocal learning, improving the level of vocal singing, and improving the quality of vocal teaching.

### **Suggestions**

Through surveys and interviews with vocal learners, vocal teachers, and expert professors, combined with existing research results, this article analyzes and discusses the psychological factors that affect the processing of vocal techniques and the performance of works performed by singers. It is believed that imagination, memory, attention, personal emotions, and personal willpower can have an

impact on the issues involved in this study. By collecting first-hand information and data through the distribution of questionnaire surveys, and analyzing the research data, it has been proven that the five independent variables mentioned above are closely related to the singer's sound technology processing and singing performance. This study is an empirical study, although some progress has been made, there are still two shortcomings. Firstly, the research perspective of vocal psychology in this article is relatively narrow, and it is only discussed from the survey and interview content of some Chinese vocal learners, vocal teachers, and expert professors, without placing it in the music cultural environment of the world for research. Secondly, although this study adopts a variety of research methods, there is still room for improvement in research design, research process, and data interpretation. Indeed, from the perspective of research methods, interdisciplinary research cooperation will be the trend of future research. However, due to the particularity of music art and the interdisciplinary nature of music psychology, emphasis should be placed on strengthening the study of methodology, and more emphasis should be placed on selecting research methods that are oriented towards solving scientific problems and based on theoretical support, without blindly pursuing the surface presentation of empirical materials and data. This will further improve the standardization and depth of music psychology research, and promote the further scientific development of music psychology.

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