



# **Music Psychology and its Integration in Middle School Music Education in China**

**Yu Chen <sup>a\*</sup>**

<sup>a</sup> Xi'an No. 67 Middle School, Xi'an, China.

## **Author's contribution**

*The sole author designed, analyzed, interpreted and prepared the manuscript.*

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## **ABSTRACT**

This study provides insight into the importance of music psychology in music education. First, it emphasizes the key role that music psychology plays in improving students' musical literacy and skills, treating it as an indispensable component of music education. Secondly, the article points out that short-duration music videos have a significant impact on adolescents' learning attention, highlighting the urgency of integrating music psychology into teaching. In addition, the article deeply discusses the close relationship between music and psychology, which is crucial for improving the quality of music teaching and deeply understanding the psychological process of music learning. Through an in-depth analysis of the role of musical emotion-inducing mechanisms in cognition and emotion, the article particularly emphasizes the impact of musical expectations on emotional responses. Finally, this article once again emphasizes the key role of music psychology in music education, which helps to improve students' musical literacy, deeply understand the psychological process of music learning, and improve the overall quality of music teaching.

**Keywords:** *Music psychology; secondary education; education system; integration research.*

\*Corresponding author: Email: [chenyuxian@aliyun.com](mailto:chenyuxian@aliyun.com);

## 1. INTRODUCTION

Currently, the field of music psychology in China is facing new challenges in the era of diverse digital media, the pluralization of musical genres, and the continuous advancement of multimedia technology. This trend has led to a noticeable upward trajectory in the development of music psychology, gradually permeating into the daily lives of the general public. It directly or indirectly exerts profound influences on individuals' mental and emotional states, and even impacts life decisions and directions. Simultaneously, with the ongoing progress of modern science, there is an increasing focus on understanding the effects of music on mental health.

In contemporary society, the impact of music on individual emotional movements and psychological changes involves various factors closely linked to individuals' life experiences and pursuits. Music learning theory, originating from the study of music education, delves into the psychological factors and patterns of music learning. Approaching various issues in music learning from a psychological analysis perspective may yield unexpected results. A profound understanding and mastery of the psychological processes of music learning are crucial for music education. In this process, teachers can guide students' music learning psychology through scientific methods, while students can apply the psychological principles of music learning to enhance efficiency and competence.

In recent years, as research in music psychology has deepened, it has gradually become an indispensable component of music education. This necessitates teachers to fully leverage the advantages and characteristics of music psychology in teaching, effectively enhancing students' musical literacy and skills. In actual teaching, teachers can gradually elevate the depth and breadth of their work by seamlessly integrating psychological theories into their teaching practices. This is crucial for improving the effectiveness of music education and promoting comprehensive development in students.

Therefore, the development of music psychology in China in the current social environment not only requires attention to technological and media advancements but also emphasizes the organic integration of the psychological theoretical research and teaching practices. The

advancement of this field will not only contribute to a better understanding of the impact of music on individual psychology but will also provide more scientific and effective methods for music education. This holds positive significance for enhancing people's musical cultivation and mental health levels.

## 2. A REVIEW OF RESEARCH ON MUSIC PSYCHOLOGY

In Zhang [1], Zhang Yaran researched the significance and evolution of music psychology in China. Between 1980 and 1989, music psychology began to garner widespread attention in China, gradually forming international and domestic research directions and content. Researchers applied psychological theories and methods to delve into music styles and the psychological elements influencing music composition. The article highlights the close relationship between music and society, exploring the value and role of music in social development, as well as the impact of human psychology and aesthetics on music research. Music psychology has made significant contributions to research in music education, giving rise to a new discipline called "music education psychology." Chinese scholars, after analyzing and appreciating the works of foreign composers, developed unique insights and inspirations. These studies have exceptional significance in understanding the role of music on both societal and individual psychological levels. Scholars in this field have delved into the interrelationships between music and society, psychology, and aesthetics, as well as the impact of music on individual psychological activities. Furthermore, music psychology has had a profound impact on music education research, driving the development of educational psychology in music. The article also mentions specific works and scholars' viewpoints, such as Qian San's "From Beethoven to Shostakovich—Psychological Processes in Composition" and Xiu Hailin's "Cultural Psychological Analysis of Primitive Music and Dance." These studies provide important references and insights for a deeper understanding of the role of music on societal and individual psychological levels, contributing significantly to the evolution of music psychology in China and the advancement of music education.

In Pan [2], Pan Xinyue researched the impact of short music videos on middle school music education from the perspective of music

psychology, delving into the characteristics of such music and its influence on adolescents' learning attention. The article emphasizes the high homogeneity presented by short music videos, with similar melodies repeating across different tracks, resulting in musical homogeneity. Additionally, the fragmented nature of short music videos affects musical coherence, significantly impacting music memory and aesthetic activities. The article also highlights the widespread dissemination of mass media accelerating the popularity of short music videos, profoundly influencing adolescents and affecting their judgment. However, short music videos can also serve as supplementary materials for music education, sparking student interest, though content selection requires caution to align with the music curriculum. Finally, the article emphasizes that short music videos should be viewed as a beneficial complement to traditional music education rather than a direct replacement. With a careful balance and guidance, they can have both negative and positive effects in music classroom teaching, achieving a more balanced outcome in practice.

In Wang [3], Xi Wang studied the influence of music on emotions in contemporary society and the application of music psychology in this field. With society's continuous evolution, there is a growing desire to alleviate individual mental and emotional stress. Different types of music can trigger diverse emotional responses and psychological changes, with electronic music currently dominating the market, possessing distinct emotional and rhythmic features. Through data analysis, folk-style songs are also favored by music audiences, indicating a preference for music that depicts life and provides solace to the soul. Additionally, the article emphasizes the guiding role of music emotion movements in music psychology, holding significant importance in improving medical music therapy and addressing the increasing mental health issues. Despite the high speed and utilitarian nature of modern music consumption leading to emotional response homogenization, highlighting issues in the optimization of the music market, professionals in the field of music psychology have a responsibility to actively promote academic research on music emotion movements. Collaboration with professionals in the medical field is essential to lead people towards mental and physical health. In summary, music emotion movements play a guiding role in the development of music psychology, exerting a

profound and positive impact on the overall fate and mental health of humanity.

In Yingjun [4], Wang Yingjun explores the close relationship between music and psychology, emphasizing the importance of understanding the psychological processes of music learning and applying music psychology to enhance the quality of music education. The author points out that music has rich and diverse psychological aspects, capable of eliciting different emotional experiences, and learning music involves a complex and profound psychological process. The article emphasizes the significance of employing flexible and adaptable teaching methods in music education, stressing that these methods need to align with the psychological activities of students, given the complex and diverse nature of their mental processes. Additionally, the article delves into the psychological processes of music learning, including perception, representation, imagination, and more, emphasizing the need for teachers to pay full attention to students' psychological characteristics and the psychological patterns of music learning. By discussing the interaction between teaching methods and psychological processes, the author highlights the impact of individual differences on music learning, providing profound insights for enhancing the quality of music education.

In Lanying and Yinping [5], Yu Lanying discusses vocal psychology and conducts a detailed analysis of the song "Meeting You as If for the First Time." Vocal psychology integrates the art of singing with various psychological activities, including perception, emotion, and will. The article emphasizes the close connection between music psychology and vocal psychology, covering multiple domains such as perception, emotion, and will. "Meeting You as If for the First Time" cleverly combines classical style with contemporary elements, showcasing a beautiful melody and profound lyrics that express emotions related to love and separation. In the analysis of the song's performance, the article emphasizes the crucial importance of a singer's precise control of pronunciation and breath management. Furthermore, the article highlights the key role of vocal psychology in fostering singer confidence, overcoming nervousness, and dealing with performance pressure. As a discipline that comprehensively analyzes the psychological qualities and performance skills of singers, vocal psychology is vital for singers' professional development and stage

performance. The in-depth analysis of the article provides readers with a profound understanding of vocal psychology and artistic songs. Through a detailed analysis of "Meeting You as If for the First Time," readers gain a better understanding of the intertwining of music and emotions, as well as the psychological qualities and skills required by singers in performance. The emphasis on vocal psychology makes the article inspiring, particularly for those aspiring to engage in singing performance or with an interest in vocal art.

In Zheng [6], Zheng Yaqin explores the crucial role of music psychology in vocal teaching, emphasizing the significance of imagination and association in vocal practice. The article explicitly states that teachers, by guiding students in imagination and association, can enrich students' emotional experiences in vocal singing, thus enhancing their vocal skills. Additionally, the article underscores the major role of imagination and association in expanding students' knowledge of music and aiding them in understanding emotional expressions in music lyrics. The author particularly emphasizes that, in the teaching process of vocal skills, teachers need to reinforce guidance to students by stimulating their imagination and association, promoting a more comprehensive development in the cultural domain. In summary, the article provides a deep analysis of the application of music psychology, imagination, and association in vocal teaching, highlighting their indispensable role in improving students' musical appreciation and vocal skills.

In Kong [7], Kong Weiyu investigates the cognitive and emotional aspects of music emotion induction mechanisms, focusing on the eight music emotion induction mechanisms proposed by the renowned music psychologist Juslin. The article further explores the interrelationships between music aesthetics, music psychology, and music education, particularly emphasizing the music expectation mechanism. Moreover, it conducts an in-depth analysis of the structural features and cognitive aspects of music, including the activation of the striatum and the role of associative learning in music expectation. The article emphasizes the profound impact of music expectation on emotional responses, providing rich examples and cases to illustrate how composers skillfully manipulate music expectations to guide the audience's emotional experiences. Additionally, the article discusses the core role of subjective

listening in music theory education and the importance of syntax in music performance education, offering crucial insights for practical applications in music education. The article, while thoroughly analyzing the cognitive and emotional mechanisms of music emotion induction, provides profound insights into understanding the impact of music on emotions. This is highly valuable for both the research and practice of music psychology and music education.

In Liu [8], Liu Jing provides an overview of the research status of music conservation theory in China. Initially proposed by Marilyn Pflederer-Zimmerman in 1963, this theory introduced Piaget's conservation theory into the field of music education. However, research on music conservation theory in China is relatively limited, with only four related papers, and only two of them are empirical studies. Existing research mainly focuses on elements such as timbre, dynamics, tempo, melody, and rhythm, while further exploration is needed in areas such as tonality, modality, and harmony. The article further points out that music cognition research should not only focus on the perception and cognition of musical elements but should also actively contribute to aesthetic appreciation and the development of music education curricula.

In Cross [9], Cross, Ian examines the role of music in the fields of cognitive science and neuroscience, as well as the significant impact of music therapy on the language and social skills of patients with Autism Spectrum Disorder (ASD). The article points out that while music receives less attention as a communication medium in cognitive science research, it is prevalent in social activities such as weddings, initiation ceremonies, funerals, and encounters with strangers. Music plays a common role in social group and individual interactions, contributing to ensuring the consistency of participants' emotional and motivational states. Furthermore, the research specifically indicates the significant impact of music therapy on the language and social skills of children with ASD, highlighting the remarkable significance of music therapy in assisting the development of language and social skills in ASD children. The article emphasizes that research in cognitive science and neuroscience primarily focuses on the relationship between music and speech interaction, providing an important theoretical and practical foundation for a deeper understanding of the communication processes

in music. It advocates moving beyond Western models to more comprehensively explore the value of music and its potential as a therapeutic tool. Therefore, this article focuses on the impact of music therapy on the language and social skills of ASD children, as well as the role of music in the fields of cognitive science and neuroscience.

In Krumhansl [10], Krumhansl investigates the recently prominent music theory proposal, Eugene Narmour's Melodic Expectancy-Realization Model, which has garnered widespread attention in contemporary experimental psychology. The psychological literature extensively documents the crucial importance of scales, harmony, tonality, beat, and rhythm in understanding tonal and harmonic music. Narmour's model encompasses five fundamental principles of melodic expectancy, possessing both intrinsic directionality and broad applicability. Future research may confirm the universality of these precisely defined principles. The article underscores the direct impact of music theory on psychological experiments and introduces the latest research plans examining predictions of lower-level upward components. The conclusion highlights the potential for mutual benefit between music theorists and psychologists by deepening their understanding of each other's disciplines. However, it emphasizes the crucial need to define common ground between disciplines and clarify fundamental differences in their approaches.

In Trehub [11], Trehub discusses research on music perception revealing many similarities between infants and adults, but the impact of these findings on adult research is relatively limited. By presenting studies on pitch memory in infants, children, and adults, the article explores potential developmental benefits based on a developmental perspective. Although the prevalent notion suggests that absolute pitch processing predominates early on and is later replaced by relative pitch processing, recent research does not support this view. In one experiment, infants remembered British folk melodies after exposure for a week but interestingly could not distinguish between the original and transposed versions. While relative pitch processing becomes more prominent in later development, it does not come at the expense of absolute pitch processing. For example, adults can recognize pitch changes of one or two semitones in a familiar music recording context. However, 5-9-year-old children

struggle with pitch changes of one semitone but succeed in a two-semitone transposition environment. In contrast, Japanese children exhibit success in a one-semitone transposition context. Overall, adopting a developmental approach provides equally important insights into many issues of music cognition.

In Deutsch [12], Deutsch investigates a range of core viewpoints and research findings in the field of music psychology. The perspective highlighted by Aristoxenus underscores the empirical nature of music research and asserts that musical phenomena are products of perception and cognition. The article emphasizes how recent technological advances have fostered close collaboration between psychologists and musicians. Timbre perception is described as a fruitful collaborative area between psychologists and musicians. In terms of pitch perception, the influence of spatial factors and the presence of hierarchical structures in music provide rich areas for experimental investigation. Furthermore, the article points out that the equivalence relationships in the twelve-tone system have not been empirically validated. The study of timbre perception serves as an outstanding example of collaboration between psychologists and musicians. Understanding melodies involves attention to differences in each note, requiring the collaboration of ears and intellect. These viewpoints and research results highlight music psychology as a multidisciplinary field requiring collaboration between different disciplines. Combining research in psychology and music provides deeper insights, enabling a better understanding of the processes of music cognition and perception and offering more profound guidance for music composition and performance.

In Parncutt and Graham [13], Parncutt explores concepts of harmony and dissonance in Western music and music theory, aiming to construct a comprehensive new humanities science conceptual framework covering a wide cognitive domain. The article comprehensively compares interwoven or interacting binary oppositions and seeks to advance the development of a new conceptual structure. By analyzing the C/D (harmony vs. dissonance) pair of opposing terms, such as consonant/dissonant, central/non-central, stable/unstable, the article reveals profound implications between these opposing concepts. While discussing the historical evolution of tonality and its ambiguity, the article deeply examines the relationship between tonality and

C/D, as well as the issue of people's overall perception of C/D. In this discussion, various works and research related to the topic are introduced to provide a more comprehensive perspective. The author aims to promote new interdisciplinary cooperation by merging cognitive fields of opposition. The article underscores the importance of harmony and dissonance in the field of music, and through thoughtful consideration and extensive literature research, it provides valuable references for an in-depth exploration of this topic. Through a comprehensive examination of relevant concepts, this article seeks to advance the field of Western music theory and provide theoretical support for a deeper understanding of the cognitive nature of musical expression.

In Frieler et al. [14], Frieler focuses on addressing the shortcomings in the field of music psychology, particularly the lack of replication studies and meta-analyses. The research findings reveal that there is almost no replication research and meta-analysis in major music psychology journals, constituting less than 1% of the total studies. Specifically, in four major music psychology journals, the quantity of replication studies and meta-analyses is minimal, almost negligible. This indicates that opportunities for replication studies are extremely limited in the field of music psychology. The article suggests that this phenomenon may be due to music psychology being perceived as a low-cost, low-return science, leading to a lack of resources and a lack of motivation to conduct replication experiments in this field. Additionally, the article discusses the increasing trend in the social sciences field to focus on the reliability and validity of empirical knowledge, mentioning efforts in the general psychology field to promote replication research initiatives. Finally, the article expresses the expectation that replication research becomes more important in music psychology.

In London [15], London explores the complexity of emotional expression in the field of music, emphasizing the need to consider multiple factors when understanding the process of emotional expression in music psychology. Firstly, the article highlights the non-linear relationship between musical elements and emotions, illustrating that different components in music may intertwine in various ways, creating unique emotional effects. For example, the interaction of elements such as pitch, tempo, and harmonic structure may build complex patterns of

emotional expression. Additionally, the paper extensively investigates the critical role of context in music emotional expression. Context encompasses not only the cultural and historical background of music but also involves individual emotional experiences and psychological states. This multi-level contextual influence makes the emotional expression in music more nuanced and diverse. The research delves into individualized emotional expression, examining factors such as individual differences, emotional memory, and emotional perception that affect emotional responses to music. On a theoretical level, the article introduces the concept of music triggering emotions through instantaneous associations and the perspective that music expresses emotions in a subdued or fictional manner. These theories provide multiple angles to explain how music influences the emotional experience of listeners. Finally, the paper also explores the associative interference that may result from using real music stimuli, emphasizing the subjectivity and diversity of emotional expression. This contributes to understanding why the same piece of music may evoke different emotional responses in different audiences.

In Miranda et al. [16], Miranda's research focuses on examining the development of music psychology during adolescence in a multicultural environment. The central objective is to comprehensively understand the influence of culture on adolescent music preferences and the role of music in transmitting cultural identity. The research indicates that various cultural factors profoundly impact adolescents' preferences for music, becoming a key medium for conveying individual cultural identity. The article categorizes the role of music in adolescent life into reflective or emotional functions and personal intrinsic and interpersonal/social functions to systematically analyze the role of music in adolescent psychological development. Additionally, the article mentions music therapy as a means to promote adolescents' adaptability and cultural identity. Through music therapy, adolescents can better adapt to their multicultural backgrounds, strengthening their sense of identity with their own culture. This finding provides guidance for designing more culturally sensitive music intervention programs. The research emphasizes the close connection between music and culture during adolescence and underscores the need to consider development theory comprehensively when interpreting research results. However, the article also points out shortcomings in applying developmental theory to the study of adolescent

music, calling for deeper integration of research into developmental theory frameworks to better understand the complex situations adolescents face in biopsychosocial changes. This perspective provides a beneficial direction for future in-depth research on the relationship between adolescent music and culture.

In Hodges and Robin [17], Hodges explores how music influences our psychological and neural systems. The research indicates that using advanced brain imaging experiments, significant music experiences with meaningful implications can be obtained. The paper particularly introduces a group of interconnected brain regions known as the Default Mode Network (DMN). This network decreases in activity when individuals focus on external stimuli and increases in activity during introspection. The research emphasizes the changes in brain structure and function due to music learning in children. Furthermore, music perception and cognition involve multiple brain regions, including positive/negative evaluations and recognition of music genres. The study also reveals that familiar and unfamiliar cultural music can activate different regions of the brain. The introduction of network science can be used to study the interconnectedness of brain regions during music experiences. The association of the DMN with self-awareness, personal history, core emotional memories, and empathy is extensively discussed in the article. The impact of music training on brain structure is emphasized, although it may not necessarily improve performance in other areas. This comprehensive psychological and neuroscience evidence supports the significant role of music in enhancing the quality of life, revealing profound ways in which music affects emotional and cognitive functions.

In Swaminathan and Glenn [18], Swaminathan investigates the close connection between music and the emotions of adults. Academic discussions show that music can not only express the emotional states of adults but also regulate their emotions. The research reveals that people identify emotions in music through basic acoustic cues and music-specific cultural cues, forming the perceptual process of music emotions. Additionally, there are cultural-specific differences in how different cultures express emotions through music. Reactions to music emotions may stem from the intrinsic characteristics of music and may involve cognitive assessment processes. Music has the ability to evoke a wide range of emotions,

including complex emotions. The research also finds that individual music preferences are correlated with personality traits; extraverts tend to prefer high activation types of music, while individuals with open personalities tend to prefer diverse music types. Overall, these research results unveil the complex and diverse relationships between music and emotions, providing insightful discussions and understanding for the field of emotional psychology.

### **3. RESEARCH RECOMMENDATIONS FOR SECONDARY EDUCATION**

In the current social context, an in-depth study of music psychology in secondary school music education is crucial for promoting students' comprehensive development and enhancing the effectiveness of music teaching. Therefore, the following research suggestions are proposed:

Firstly, it is recommended to delve into the psychological processes of music learning. Through psychological analysis, systematically dissect the various issues students may face in music learning and provide scientifically guided methods to shape students' psychological processes in music learning. This helps educators have a more comprehensive understanding of student needs, enhancing the individualization and effectiveness of teaching.

Secondly, advocating the integration of modern technological means, a thorough investigation into the impact of music digital media on students' music learning is recommended. Leveraging multimedia technology, gain profound insights into the diversity and multiplicity of music in digital media and its profound impact on students' music experiences. By studying these psychological factors, educators can better integrate digital media resources, enhancing the attractiveness and practicality of music teaching.

Thirdly, focus on the influence of music on emotions, especially during adolescence. Conduct in-depth research on how different types of music affect students' emotions and psychological changes, aiding in the formulation of more scientifically grounded music education programs. Addressing the potential role of music in emotional regulation, further advance the development of music-emotion movements, providing more effective psychological support for schools.

Simultaneously, it is suggested to enhance the imparting of music psychology knowledge in teacher training within educational institutions (some more advanced references can be found: [19-27]. This would enable teachers to have a more comprehensive understanding of students' psychological needs and conduct more targeted music teaching. By seamlessly integrating psychological theories into teaching practices, teachers can elevate the depth and breadth of instruction, better guiding students in developing their musical interests and skills.

#### 4. CONCLUSION

This article delves into the critical role of music psychology in the field of music education. First of all, music psychology plays a key role in improving students' musical literacy and skills, and has become an indispensable and important part of music education. Secondly, in view of the significant impact of short-duration music videos on adolescents' learning attention, the urgency of integrating music psychology into teaching practice is emphasized. The article emphasizes the critical importance of the close connection between music and psychology to improve the quality of music teaching and to gain a deeper understanding of the psychological process of music learning. In addition, the article deeply explores the impact of musical emotion-inducing mechanisms on cognition and emotion, with special emphasis on the potential impact of musical expectations on emotional responses. The article also focuses on the key role of cultural and cognitive evaluation processes in musical emotion perception, emphasizing the ability of music to evoke a variety of emotional responses. To sum up, music psychology plays a vital role in music education, helping to improve students' musical literacy, deeply understand the psychological process of music learning, and improve the overall quality of music teaching.

#### COMPETING INTERESTS

Author has declared that no competing interests exist.

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