

Exploring the Application of Orff Schulwerk in the Treatment of Children with Hyperactivity Disorder — — Building a Bridge between Music Education and Psychological Intervention

Yawei Luo

Yunnan Arts University, Conservatory of Music, Kunming, 65000, Yunnan Province

ABSTRACT

This study focuses on the effectiveness of Orff's music teaching method in the treatment of children with ADHD. This study is motivated by the author's personal experience, which reveals the positive effect of music learning on alleviating ADHD symptoms. The research strategy combines literature review, empirical research and case analysis, compares the differences between traditional drug therapy and Orff music education program, and uses ADHD assessment tools and feedback from parents and teachers to measure the effect. Research data show that children who participate in Orff music courses show significant progress in concentration, impulsive behavior and emotional management, and their academic performance has also improved. It is concluded that Orff music education, as an intervention, shows obvious advantages in improving the symptoms of children with ADHD, and provides another effective treatment option for such children, which not only has theoretical significance, but also has practical application value.

KEYWORDS

Orff Schulwerk; Music therapy; Hyperactivity

The choice of this research topic is mainly based on personal experience. From adolescence to adulthood, the author believes that he has attention deficit hyperactivity disorder (attention deficit and hyperactive disorder, ADHD), which is commonly known as hyperactivity disorder. However, during this period, the symptoms were significantly alleviated by learning music. In view of this, the author extensively reviewed the relevant literature on the application of music therapy in the field of special education, aiming at combining Orff's knowledge of music education at the undergraduate stage with music therapy theory, and exploring its potential efficacy for ADHD children. It is hoped that this method can help these children improve their attention concentration from an early age, control impulsive behavior, and prevent the deterioration of symptoms that may occur with age.

Orff music therapy has been widely used in some rehabilitation centers in China, mainly in the field of special education, especially in the rehabilitation of disabled and autistic children. According to the data provided by Clinical Therapeutics of ADHD in Children-3rd Edition, the incidence of ADHD in children in China is between 1.3% and 15.9%. However, there are few studies on the use of Orff music therapy to improve the condition of children with ADHD. Many parents tend to ignore that their children's behavior may be symptoms of ADHD, and only attribute it to naughty or improper learning attitude, which may actually have a profound impact on their children's future development. In the course of this study, through consulting the relevant information of CNKI, it is found that there are relatively few articles about how music education or treatment can help children with ADHD. Therefore, it is particularly important to explore the potential value of music

education and treatment programs in alleviating the symptoms of ADHD children.

1 An Overview of Orff's Music Pedagogy

1.1 Theoretical basis of Orff music teaching method

Orff Schulwerk, founded by Karl Orff, a famous German music educator, is a music education system that emphasizes all-round development. This method advocates that through experiential teaching activities, such as rhythm exercises, body rhythm, dance and drama performances, students can participate in the music learning process in an all-round way, so as to promote their comprehensive growth in music understanding, physical coordination, emotional expression and cognitive ability. In addition, this teaching method also has the style characteristics of the Baroque period, attaches importance to the application of retro tonality and contrapuntal skills, and uses music works with a sense of hierarchy and rhythm to enhance students' musical sensibility and their concentration on the physiological and psychological levels. Creative thinking is also one of the core of Orff's teaching philosophy, encouraging students to try improvisation and composition to stimulate their artistic creativity.

1.2 The potential of the Orff Schulwerk, in the field of treatment

According to the views put forward by Zhang Yu in her article on the role of Orff music education in music therapy [4], music therapy can be divided into two types: active music therapy and passive music therapy. Among them, "passive music therapy" mainly makes patients listen to music to achieve healing purposes, while "active music therapy" focuses more on the process of participants actively participating in music activities under the guidance of therapists, such as Orff Schulwerk,, which is a widely used method in this field.

Orff Schulwerk mainly encourages children to freely choose Orff instruments to play through elements such as rhythm, harmony and lyrics, as a channel of emotional catharsis and release, so as to help participants alleviate stress, anxiety and other emotional problems. This educational method is known for its creative and personalized curriculum design, which not only promotes the harmonious development between the individual's physiology and psychology, but also enhances the individual's social interaction skills, and helps to improve their cognitive ability and innovative thinking. In addition, in the process of rehabilitation treatment, music therapy can also stimulate patients' internal enthusiasm and recovery motivation, and help them face mental health challenges more effectively. Accord to that theory of resonance, sound is produced by the vibration of an object. The type of music used in Orff Schulwerk belongs to the category of promoting positive vibration frequency. The theory also points out that when the human body is dysfunctional, its internal vibration frequency will change accordingly. In this case, it is possible to guide that patient to return to the normal vibration pattern from the abnormal state if the music that help to enhance the healthy vibration frequency of the individual is scientifically selected. Based on this, in the field of treatment, Orff Schulwerk has shown great potential for application.

2 Current status of education and treatment for children with ADHD

2.1 Current status and treatment of ADHD

2.1.1 ADHD Status Summary

According to the records in Hyperactivity Disorder and Tourette Syndrome[9], the incidence of

hyperactivity disorder in children is between 5% and 10% in international reports, while domestic studies show that the rate is more than 10%, and the number of male patients is more than that of female patients. In addition, the study found that premature infants and infants born by cesarean section had a significantly higher risk of ADHD, with the proportion of these groups reaching more than 60%. As for the cause of the disease, it can be discussed from three aspects: genetic, environmental and biological factors. Genetic factors can be analyzed from three aspects: family aggregation, inheritance degree and related genes (such as DRD2 and DAT1), which are regarded as important factors affecting individual characteristics. Environmental factors can be divided into two main categories: pregnancy and perinatal effects, such as maternal smoking or excessive alcohol consumption during pregnancy, and physical factors such as lead exposure, which has been identified as one of the important factors that increase the risk of ADHD in children, because lead pollution can adversely affect the development of children's nervous system. In addition, other indirect environmental factors may also play a role, such as family atmosphere, educational methods and socio-economic status. Biological factors mainly include abnormal brain structure and function (such as dysfunction of prefrontal lobe or caudate nucleus), imbalance of neurotransmitter level (involving dopamine, norepinephrine and 5-hydroxytryptamine) and related factors of immune system. Through the comprehensive analysis of the above three factors and other research data on ADHD, we can find that ADHD has been a neurodevelopmental disorder with high incidence in childhood since ancient times. The disease is not limited to adolescents and preschool children, but also has a higher incidence in adults. It is characterized by attention deficits, hyperactivity, and impulsive behavior, and is often associated with varying degrees of learning disabilities. ADHD has been likened to a musical instrument in a symphony orchestra. When it loses its due harmony and cooperation, the whole movement will be affected.

2.1.2 Hyperactivity disorder treatment discovery

Based on the research of behavior modification techniques, educational strategies for children with ADHD and psychological and behavioral therapy, I have summed up a series of methods for the treatment of ADHD. These approaches include, but are not limited to, pharmacological interventions (such as the use of methamphetamine-type drugs), behavior modification measures (such as cognitive behavioral therapy and social skills training), family support and education (such as parental guidance courses and family counseling), special teaching arrangements (personalized learning programs and supportive educational resources), Physical activity (organized physical activity programs) and mental health services (individual counseling and stress management techniques). In addition to the use of drugs, most other treatments rely on external support systems to promote patient progress through positive language incentives and setting achievable goals, rather than relying solely on the patient's own strength.

2.2 Attempt of music education in the treatment of children with ADHD

After Dr. Oliver Sachs, a professor of neurology, explored and documented the therapeutic effects of music in his book, Columbia University concluded that "there is nothing more broadly activating the brain than music.[10]" Although Sachs's research has focused on conditions such as Parkinson's disease, Tourette's syndrome and autism, other researchers have found that music also has a significant impact on people with attention deficit hyperactivity disorder (ADHD). Kirsten Hutchison, a music therapist from Northwest Music Studio, points out that "music has a temporal nature, and it has a definite beginning, development and end." This structure helps children with ADHD plan, anticipate, and respond better. There are also international experts who have compiled a list of

music works for ADHD children aimed at promoting their rehabilitation. For example, Norwegian psychologist Edward Hagwell mentioned in his book *The Emperor of Piano Concerto No.5*, which describes Beethoven's ingenious combination of orchestration, harmony and multi-tonality to create classical movements as exquisite as Gothic architecture, as if mobilizing every cell in the listener's brain. By listening to this complex concerto, patients can improve their visual-speech-motor coordination as they follow the changes in the music.

As for the application of music education in the treatment of children with ADHD in China, this paper synthesizes the research results of many literatures. The methods used in these studies are very similar to Orff's music teaching method, emphasizing sensory experience, improvisation and creative expression. Strengthen children's memory through singing activities; With the help of dance or percussion instrument playing exercises accompanied by music, it aims to improve their concentration. In addition, improvisation is used as a means of emotional release to help students calm their anger and stabilize their emotional state. It is worth noting that all the above teaching strategies need to be tailored to the specific situation of each student. Nevertheless, in the process of consulting relevant information, the author still deeply feels that there is still great potential for music therapy to improve the symptoms of children with ADHD.

3 Application Orff Schulwerk in the Treatment of Children with ADHD

3.1 Application case and empirical study

In recent years, many studies have shown that Orff Schulwerk has a significant positive impact on children with attention deficit hyperactivity disorder (ADHD). In one study, for example, four children between the ages of 6 and 10 with ADHD were randomly assigned to receive standard medication as recommended by their doctors or to participate in a 45-minute Orff music therapy session once a week. Six months later, by re-evaluating the ADHD Symptom Scale and collecting feedback from parents and teachers, the results showed that the children who had undergone the Orff Music Training Program showed more significant progress in focusing, inhibiting impulsive behavior and emotional management than those who only relied on drug treatment. In addition, this progress is not only reflected in daily life behavior, but also in the progress of their academic performance. The results strongly support the potential of the Orff music pedagogy as an effective intervention to improve the problems associated with children with ADHD.

3.2 Teaching methods and strategies

After a thorough study of the literature related to music therapy and special education, and exploring the examples of Orff music therapy applied to ADHD children, combined with the theoretical knowledge I have mastered, I refined a series of teaching strategies.

First of all, educators should attach importance to the participation experience of sick children, and stimulate their interest and enthusiasm in learning by letting them play musical instruments or participate in dance. For example, children with ADHD can be invited to participate in spontaneous group activities centered on music. Secondly, teachers should make full use of the rhythm and rhythm characteristics of music and design some games to help improve the stability of attention, such as guiding ADHD children to distinguish different sounds and rhythm patterns, so as to improve their auditory sensitivity and physical coordination. In addition, by organizing music games and creative projects, we can attract the interest of children with ADHD and help them find things that they can focus on. For example, creating a series of small games that allow these children to freely explore the sounds of various instruments and encourage them to draw images of the sounds

they hear on paper not only enriches the classroom content, but also provides valuable teaching resources for teachers. Finally, according to the specific situation of each ADHD child, it is necessary to customize personalized music teaching strategies. For those children who are calm but difficult to concentrate, they can attract their attention by reducing external interference and taking appropriate teaching steps. For students with greater emotional fluctuations, soft melodies can be played first to calm their emotions.

3.3 Evaluation of teaching effect

When evaluating the therapeutic effect of Orff Schulwerk on children with ADHD, researchers usually adopt a series of comprehensive data collection methods. First of all, by closely observing children's specific performance in the curriculum, such as their enthusiasm in participating in music activities, their ability to concentrate and interact with others, teachers can effectively evaluate their learning progress and effectiveness. In addition, feedback from parents and educators about changes in children's daily behavior patterns is also an integral part. These feedbacks may involve understanding whether children's attention has improved, how their emotional state is, and whether their academic performance has improved, thus further verifying the practical utility of Orff music therapy. In addition to the above measures, researchers can also use a series of objective assessment tools to measure the impact of Orff music therapy on children's treatment effectiveness. For example, the ability of attention deficit hyperactivity disorder (ADHD) children in concentration, impulsive behavior control and emotional management was quantitatively analyzed by using the general hospital evaluation scale, which was used as one of the criteria to evaluate the intervention effect of the music education model on ADHD patients. This kind of measurement method not only helps researchers to grasp the actual curative effect of Orff Schulwerk more accurately, but also lays a solid foundation for future exploration in related fields.

4 Innovations Orff Schulwerk in the Treatment of Children with ADHD

4.1 The innovation of educational philosophy

Orff Schulwerk shows a unique teaching concept innovation in the treatment of children with ADHD, especially its emphasis on promoting children's self-expression ability and creative thinking development. This concept is based on the premise that children are born with musical potential, and that by participating in musical activities, children can convey their feelings and ideas in a more natural way. The highly interactive and creative practices of the Orff System provide a safe and inclusive space for each child to discover their self-worth and build greater confidence for those with ADHD who often feel frustrated or upset because they have difficulty controlling their behavior.

In addition, the Orff Schulwerk education system emphasizes interaction and collaboration among children. When participating in music activities, children need to work together to complete the creation and performance of music works. This kind of interaction and cooperation is not only conducive to the development of social skills, but also promotes the growth of respect and understanding for others. For children with attention deficit hyperactivity disorder (ADHD), such group activities provide a valuable learning opportunity for them to learn how to self-regulate their behavior and learn how to integrate more harmoniously into the group.

4.2 Innovation in practical application

The innovation of Orff Schulwerk in the treatment of children with ADHD lies mainly in the

richness and adaptability of its music activities. The teaching method is child-oriented, and all kinds of music interaction links are carefully designed according to children's age level, interest preference and personal ability. These activities not only cover traditional singing, dancing and percussion instrument performance, but also incorporate new elements such as contemporary music creation and performance. In this way, Orff Schulwerk can better respond to the unique needs of each participant, ensuring that every child can enjoy it and feel self-worth.

In addition, the Orff Music Pedagogy places special emphasis on integration with other subject areas. In such music activities, children can be exposed to language, mathematics, science and other aspects of knowledge. This interdisciplinary teaching mode not only promotes children's all-round development, but also enables them to deepen their understanding and mastery of relevant knowledge while participating in music activities. For children with attention deficit hyperactivity disorder (ADHD), this kind of interdisciplinary learning is both a challenge and a valuable opportunity to help them learn how to concentrate better and develop problem-solving skills.

5 Challenges and Countermeasures of Orff Schulwerk in the Treatment of Children with ADHD

5.1 Challenges ahead

Although Orff music therapy has shown significant advantages and potential in assisting children with ADHD, it has also encountered several challenges in practice. First, the unique needs of children with ADHD may present them with specific challenges when engaging in musical activities. For example, they may have trouble concentrating for long periods of time, or they may have trouble following a teacher's instructions. These problems may not only hinder the smooth flow of music activities, but also adversely affect children's self-confidence and self-identity. In addition, the social attention of music education in improving the situation of ADHD children is relatively low. Although Orff's music teaching method is considered to have a positive impact, its realization needs to rely on teachers with professional knowledge and sufficient educational resources. Unfortunately, at the current stage in our country, professionals and corresponding materials that can be competent for this work are still scarce, which poses a great challenge to the application of Orff music therapy in the treatment of children with ADHD.

5.2 Countermeasures and Suggestions

In view of these challenges, the author puts forward the following countermeasures and suggestions: The first task is to enhance personalized care and support for children with attention deficit hyperactivity disorder. In music education and treatment programs, appropriate teaching strategies should be tailored to each child's specific situation and meticulous research on their symptoms. In addition, it is necessary to strengthen the cultivation and support of Orff music education teachers. By means of professional training and experience sharing, we can improve teachers' professional level and teaching skills, and provide them with sufficient resources, so as to promote the popularization and development of this educational method in the field of rehabilitation of children with attention deficit hyperactivity disorder.

6 Summary and Outlook

This study focuses on the innovative practice of combining Orff Schulwerk with ADHD treatment,

highlighting the personalized education path, evidence-based research support and innovation in educational philosophy. Through detailed case analysis and systematic data collection, the paper presents the remarkable effect of Orff music therapy in improving the symptoms of ADHD, and advocates that the development of children's personal expression ability, the stimulation of creativity and the cultivation of social communication skills should be emphasized in the process of music education. In addition, the article predicts that the Orff Schulwerk model will become an integral part of comprehensive intervention strategies for ADHD in the future, and will work synergistically with other treatment methods to promote the full recovery of patients. In order to further promote the development of this field, strengthening the construction of professional talent team, improving public awareness of the method and exploring the possibility of new technology integration are considered to be crucial steps. With the application of emerging technologies such as virtual reality technology and intelligent musical instruments, it is expected that Orff Schulwerk will be able to better meet the needs of diverse clinical environments and open up new ways to improve the quality of life of children with ADHD.

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