

Research on the Practice of Music Therapy in Specific Groups

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Abstract: As the pace of life accelerates, people often find themselves under prolonged high pressure, which can lead to varying degrees of psychological stress. To help alleviate and eliminate this stress, music therapy can be effectively utilized to promote balance in physical, mental, and emotional well-being. By leveraging the power of music, it can soothe people's psychological states and emotions. This article will delve into the practical applications of music therapy for specific groups, explaining its foundational theories and mechanisms, analyzing its impact on these groups, and focusing on the practical applications of music therapy in these specific populations.

1. Introduction

Music serves as a vital medium for emotional communication among humans. Through listening to, composing, and performing music, people can find healing and promote their psychological well-being. Therefore, it is essential to enhance research on the impact of music therapy on specific groups and to recognize its practical value. This ensures that music therapy can provide both physical and psychological support to these groups, effectively improving their mental health and accelerating the development of music therapy in our country.

2. Overview of music therapy

2.1 Definition

Music therapy primarily utilizes the unique properties of music to help individuals achieve a balance in their physical, mental, and spiritual well-being. As research into the relationship between music and mental health deepens, music therapy has gained increasing attention. From a biological perspective, music therapy involves using music and sound to directly influence human physiological and psychological states[1], promoting blood circulation and reducing bodily tension. From a psychological standpoint, music therapy focuses on its impact on human emotions and psychology, helping people confront their feelings and address emotional and psychological issues through music. For example, passionate music can stimulate adrenaline, putting people in an excited state both physically and mentally, which in turn influences their behavior. From an educational perspective, music therapy can enhance students' attention, improve their understanding and

memory, and help them gain deeper insights and emotions through the influence of music therapy.

2.2 Research status at home and abroad

Music therapy, as a new therapeutic approach, has gained widespread attention and research both domestically and internationally. In domestic studies, the focus is on music therapy, emphasizing how it can regulate brain activity to achieve health benefits. For instance, Bai Hua[2] found in a study combining music therapy with cognitive-behavioral therapy for treating anxiety that this non-pharmacological method, when used alongside cognitive-behavioral therapy, can effectively help patients combat anxiety, with good therapeutic outcomes, high safety, low cost, and easy acceptance. Yao Yanqiu[3] and colleagues, in their study on the intervention of music therapy for the mental health of the elderly, noted that music therapy has the potential to improve the mental health of the elderly, and appropriate methods can address the growing mental health issues faced by the elderly in China's aging population. Foreign studies have also shown that music therapy can improve the depressive state of elderly patients with depression who experience cognitive decline, and through music activities, it can help the elderly expand their social circles, thereby effectively enhancing their quality of life. Katarzyna K[4] et al., using a sample of individuals aged 50 and above, found through simulation experiments and interviews that there is a direct relationship between music therapy and changes in mood, although the conclusions are somewhat limited. Extensive theoretical research on music therapy both domestically and internationally has laid a solid foundation for the development of the music therapy field.

2.3 Therapeutic mechanism

Music therapy, an interdisciplinary approach that integrates medicine, psychology, and music, is grounded in biology and psychology. It uses the sound waves generated by specific frequencies of music to stimulate the human brain (Figure 1), inducing resonance with the brain's natural frequency. This process helps the brain transition from a low-frequency state to a high-frequency state, thereby regulating both physical and mental functions. Scientists have conducted sophisticated experiments on music therapy, providing participants with various rhythms of music while monitoring their electroencephalograms (EEGs) and magnetoencephalograms (MEGs). The results show that musical rhythms can align with the brain's inherent vibration frequencies, leading to neural resonance. This explains why people can dance to the rhythm of music. From a cognitive psychology perspective, the mechanisms of music therapy can be summarized as follows: (1) Different Hz frequencies in music rhythms can trigger various resonant effects in the human cerebral cortex, which can influence and alter emotions, helping to alleviate stress and anxiety. (2) The human body can be influenced by external sensory stimuli, leading to the development of the cerebral sensory cortex. Music therapy can effectively stimulate this sensory cortex, enabling the formation of signal transmission and reflexes between the brain's neural circuits and the sensory cortex, thus promoting brain development. (3) Music therapy can also effectively reduce the perception of pain, thereby helping to alleviate it.

From the perspective of Jung's symbolic theory, the mechanism of music therapy can be defined as the stimulation and expression of archetypes, resonance with the collective unconscious, and the integration of body, mind, and spirit. In the process of stimulating and expressing archetypes, the symbolic techniques of music therapy can be used to stimulate deep psychological structures, trigger external cognition and memory, and form an emotional connection with music, helping people release inner pressure and achieve spiritual purification. The resonance with the collective unconscious emphasizes that music therapy is a shared process transcending individual experiences, using musical forms to influence cognition, emotions, and behavior. In the process of resonating

with the group, it touches deep emotions and hard-to-detect parts of the inner self, which are influenced by individual cultural and background differences. The integration of body, mind, and spirit mainly refers to providing an outlet for emotional release through music therapy, which helps people form self-awareness and manage emotions, further promoting personal growth and development, and advancing social harmony and progress.

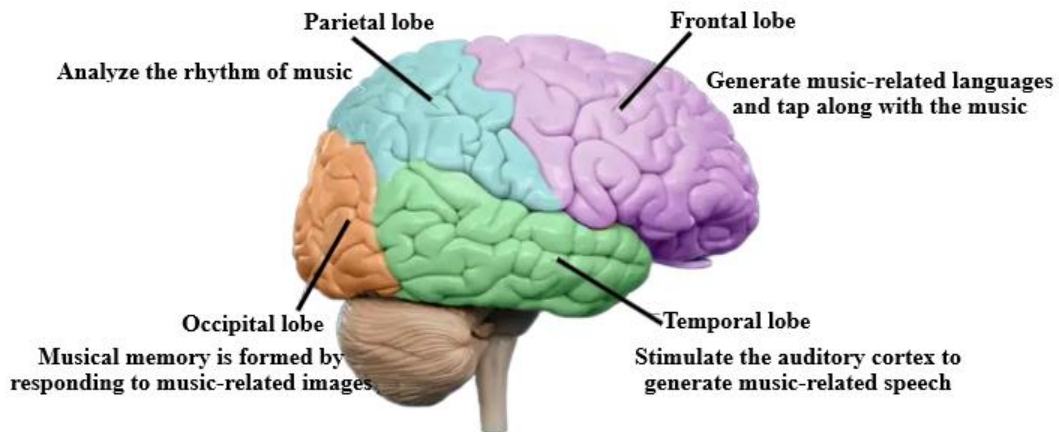


Figure 1: The role of music and the brain

3. The effects of music therapy on specific groups of people

In the research of music therapy, it is found that it has a strong influence on specific groups, which can make people happy, encourage people to work hard and effectively relieve negative emotions. Now we will conduct an in-depth study on the influence of music therapy on specific groups.

3.1 Alleviate anxiety

To alleviate anxiety and psychological issues in specific groups, soothing and flowing music can effectively ease their emotions. In music therapy, 4/4 time rhythm music is often used to provide a soothing and gradual experience for these individuals. This rhythm has a clear pattern of strong and weak beats, allowing the audience to fully experience the flowing music through a series of strong, weak, secondary strong, and weak beats. By matching this with moderate tempo music, it helps the audience gradually relax. Additionally, music therapy can use ascending, descending, and repeated melodies to help alleviate anxiety. As the main melody unfolds and changes, it helps regulate the psychological state of the audience, effectively alleviating their inner distress and worries. In music therapy, inspiring and heartwarming lyrics can also provide spiritual comfort and encouragement to the audience.

3.2 Release pressure

In the impact of music therapy on specific groups, it can help these individuals effectively release inner stress, allowing them to experience relaxation and joy in a suitable musical environment, thereby alleviating their current suboptimal mental state. During the process of music therapy, various beat patterns such as 2/4, 3/4, and 4/4 can be fully utilized to create a composite rhythm. For instance, the 2/4 beat rhythm in composite rhythms can align with the physiological rhythms of the human body, thus stimulating a positive emotional response in specific groups. The

4/4 beat rhythm can evoke feelings of tranquility and vitality, which, when combined with the 3/4 beat rhythm, creates a harmonious music therapy setting. To address the different psychological challenges faced by specific groups, bright and uplifting music therapy melodies, along with beautiful and harmonious tones, can provide a warm and positive emotional experience, helping these individuals consciously alleviate their psychological pressure and gain effective encouragement.

3.3 Relaxation to help sleep

Using music therapy to intervene with specific groups can leverage its soothing and sleep-promoting effects to effectively address sleep issues and improve sleep quality for these groups. In real life, certain individuals often struggle with good sleep and exhibit symptoms such as anxiety or nervous disorders. Music therapy can help these individuals by using the gentle tones of musical instruments to create a tranquil atmosphere, aiding them in falling asleep more quickly. Additionally, music therapy can use rhythms that closely match human heart rates to positively influence these individuals, promoting blood circulation and stabilizing vital organs like the heart, thus providing a sense of calm. Currently, there are various types of music melodies used in music therapy for sleep assistance. For example, continuous and soft natural sounds can immerse people in a natural auditory environment, helping to quickly relax the mind and body, which can aid in falling asleep. Some light piano pieces also evoke a sense of tranquility and can help soothe and calm the mind. For instance, the opening beautiful and gentle melody of the 'Goldberg Variations' can create a dreamlike experience, making it an excellent choice for sleep assistance.

3.4 Cheer up

Music therapy can also uplift the spirits of specific groups, effectively alleviating their feelings of depression and helplessness, and helping them find a way to express their emotions. By using uplifting music, such as 2/4 and 4/4 time rhythms, or incorporating drum beats and other instrumental sounds, composers can create music with a tight rhythm. This allows specific groups to follow the music's rhythm, relax their minds, quickly release adrenaline, stimulate their neurons, and achieve an uplifting effect. In daily music therapy, a variety of music with strong emotional impact, such as melodies with significant fluctuations and percussion, is often provided to specific groups. This helps them be inspired by the music, fostering a positive, optimistic, and upright attitude, and providing spiritual guidance.

4. The practice of music therapy in specific groups of people

4.1 Application in adolescents

As a significant part of the youth population, music therapy can offer effective support and guidance to young people, fully leveraging its educational value to promote their overall well-being. Currently, music therapy has been widely adopted in the field of mental health education for adolescents, helping them effectively regulate and improve their emotions[5], enhancing their positive emotional states, ensuring they maintain a healthy psychological state, and providing them with effective psychological support.

4.1.1 Sources of psychological pressure for adolescents

Psychological stress is a complex psychological response that arises when adolescents perceive their external and internal environments, leading to physiological, emotional, cognitive, and

behavioral stress responses. According to research by the National Mental Health and Mental Health Prevention Center on adolescent psychological stress (Figure 2), adolescents experience rapid physiological changes when feeling stressed, such as increased heart rate, rapid breathing, and muscle tension. Emotionally, they may exhibit anxiety, tension, anger, and depression, which can lead to decision-making difficulties, distraction, and cognitive biases. Analyzing the sources of psychological stress in today's adolescents reveals that social competition, uncertainty about future careers, social development, and academic issues all contribute to varying degrees of psychological stress.

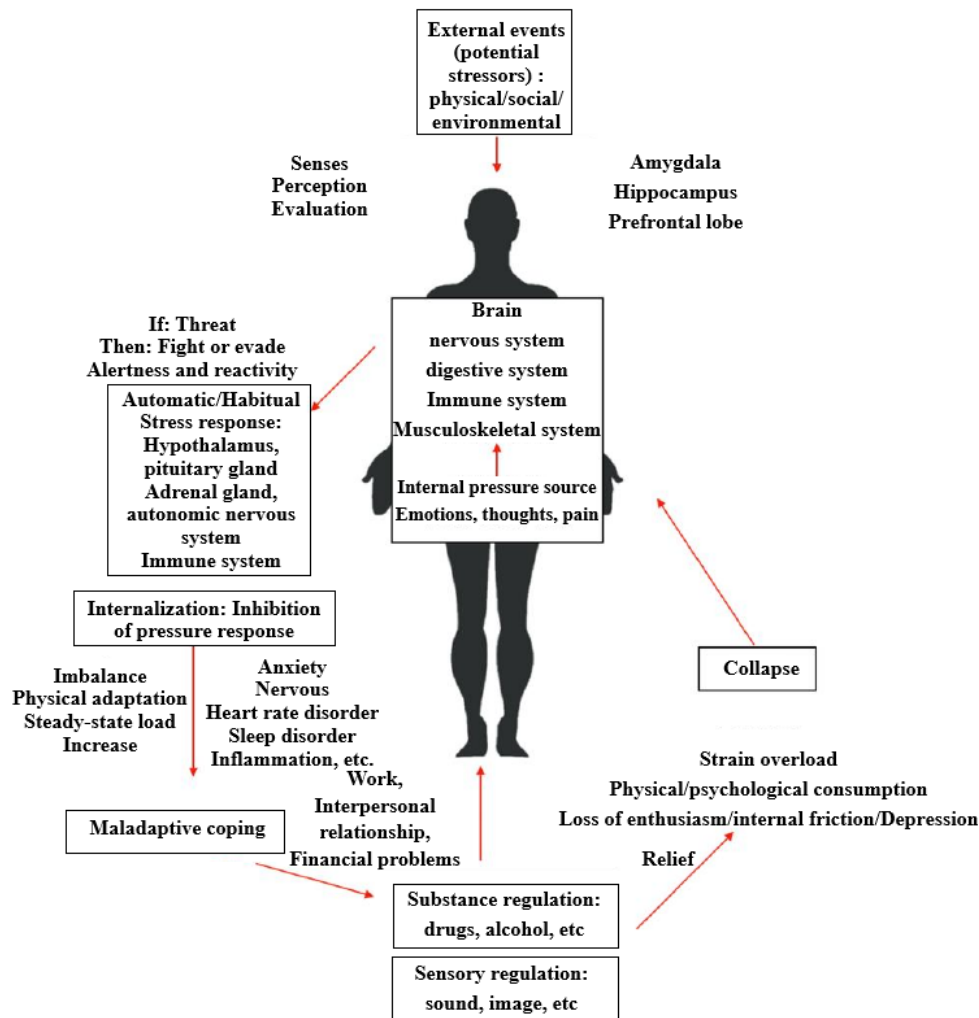


Figure 2: Various adverse reactions of adolescent psychological stress

4.1.2 Application of music therapy in relieving psychological pressure of adolescents

To address the psychological stress faced by today's youth, music therapy can be effectively utilized to positively intervene in their lives, thereby regulating their physical and mental states, reducing stress and anxiety, and improving their mood. Based on the principles of music therapy, various types of music can be used to alleviate the psychological pressure experienced by young people. Firstly, natural healing sounds can be fully utilized to regulate the psychological state of young people. For instance, simulating natural sounds such as ocean waves, wind, rain, and insect chirping in music therapy can help young people relax emotionally, achieving a calming effect.

Since these sound effects have low frequencies, they do not interfere with students' learning and can enhance their concentration. Noise is also an important resource for music therapy in alleviating the psychological pressure of young people. Common noises can be categorized into white noise and colored noise (Table 1). White noise, with its unique frequency characteristics, can help young people block out negative sounds, thus making them feel more relaxed. Research on white noise has shown that it can form auditory suggestions for humans, aiding in the treatment of neurological disorders. Colored noise, which can be divided into different colors and uses different frequencies (Hertz), can provide varying degrees of stress relief to young people. For example, pink noise, with its lower frequency compared to white noise, can effectively help young people reduce anxiety and improve their sleep quality.

Table 1: Frequency range of white noise and colored noise

Noise type		frequency range
white noise		0.1Hz-20000Hz
The colored noise	Pink noise	20Hz-20000Hz
	Brown noise	0.1Hz-20000Hz
	The grey noise	20Hz-20000Hz

4.1.3 Application of music therapy in family education

To address the psychological stress faced by specific groups of teenagers, music therapy can be integrated into family education. This approach aims to promote the organic combination of music therapy and family education, creating a more positive, harmonious, and healthy family environment that supports the healthy and happy growth of teenagers. Music therapy can help family members reduce stress and negative emotions, fostering more harmonious emotional exchanges between parents and children, enhancing parent-child relationships, and supporting the psychological well-being of teenagers. In specific family education music therapy activities, it is essential to ensure the collective participation of family members. Based on the specific music preferences of family members, therapeutic pieces should be selected, and efforts should be made to combine music with games to conduct educational and entertaining family music therapy activities. This approach helps strengthen family relationships, making the family more cohesive and ensuring that teenagers' psychological stress is effectively alleviated. Additionally, through family education music therapy activities, teenagers can develop their social skills, allowing them to use music as a means for socializing, which can help them develop an outgoing personality.

4.2 Application in people with psychological problems

Music therapy can play a significant role in specific groups with psychological issues. In today's fast-paced lifestyle, people often experience suboptimal mental health, frequently suffering from anxiety, depression, and insomnia [6]. Therefore, music therapy can be effectively utilized to help individuals cultivate their sentiments and improve their mental health. According to the National Center for Mental Health Development's survey on national mental health, the detection rates of depression and anxiety are relatively high, at 21.48% and 45.8%, respectively. If not addressed promptly, these conditions can lead to more severe mental health issues, such as social adaptation disorders or a lack of self-worth. Music therapy can effectively address depression and anxiety by leveraging the functional magnetic resonance imaging (fMRI) in neuroscience, which stimulates the secretion of dopamine and endorphins in the human body, thereby intervening in the mental health of individuals with anxiety disorders. In specific music therapy practices, methods such as guqin cultural therapy and the five-tone therapy can be utilized to improve the psychological state of

individuals with mental health issues. The guqin, with its rich cultural history in China, embodies the aesthetic principles of 'clarity, subtlety, lightness, and distance,' which aligns with the concept of 'tranquility and emptiness' in traditional Chinese medicine. The flowing melodies of the guqin can promote dynamic meditation among individuals with anxiety disorders, helping them develop a positive mental state. The five-tone therapy uses the beautiful sounds of the five tones to stimulate the activity of NK cells in the human body, regulate physiological functions, and enhance the immune system, thereby achieving the effects of disease prevention and treatment. Under the melody of five tones, the human body can passively accept healing and regulate anxiety and depression. Through the regulation of auditory system, the psychological state of the human body can be changed, so as to achieve the effect of psychological regulation.

4.3 Application in the elderly population

Applying music therapy to the elderly can effectively address mental health issues among the aging population in our country, helping to regulate their mental health status. Currently, the elderly often face issues such as twilight mentality, loneliness, lack of values, and a sense of security. Effective music therapy can use appropriate music to promote the physical and mental well-being of the elderly and improve their quality of life. The main forms of music therapy for the elderly include: (1) Music relaxation therapy. By using soothing and relaxing music, this therapy helps the elderly relax both physically and mentally, promoting their overall well-being. (2) Music therapy. With the assistance of professional music therapists, this therapy provides healing and psychological support to the elderly, addressing issues related to their emotions, cognition, and mental health. (3) Group music therapy activities. Through group activities, the elderly can engage in musical collaboration and creative performances, which helps them express their emotions, enrich their cultural lives, develop healthy hobbies, and facilitate social interaction through musical cooperation. Various forms of music therapy can effectively address the mental health challenges faced by the elderly.

5. Conclusion

In summary, music therapy holds significant application value for specific groups. By leveraging the therapeutic mechanisms of music therapy, it can effectively address mental health issues and further enhance the mental well-being of these groups. In practical applications, it is essential to fully utilize the benefits of music therapy in reducing anxiety, relieving stress, and promoting sleep, thereby continuously advancing the field of music therapy.

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