

The Effectiveness of Music Therapy in Alleviating Academic Anxiety and Depression Among College Students

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Abstract: This study aims to explore the effectiveness of various music therapy methods in alleviating academic anxiety and depression among college students by conducting a comprehensive review and analysis of relevant literature. The results indicate that music therapy, as a psychological intervention, has shown significant effects in reducing academic anxiety and depression among college students. The music therapy not only effectively lowers anxiety levels and alleviates depressive symptoms but also enhances students' self-confidence, promoting their healthy and happy growth. Additionally, the study highlights future research directions and challenges. Although music therapy has achieved significant results in alleviating academic anxiety and depression among college students, further investigation is needed into its long-term effects and mechanisms, as well as its combination with other psychological intervention methods. Moreover, the personalized design and optimization of music therapy for college students with different cultural backgrounds, personality types, and levels of academic pressure deserve in-depth research.

1 INTRODUCTION

In today's fast-paced society, college students face multiple pressures from academics, employment, and social interactions, leading to increasing mental health issues. In recent years, with the expansion of higher education, the number of college students has rapidly increased, intensifying academic pressure and job competition, which has led to a rising incidence of depression among college students. Research indicates that approximately 21.48% of college students may be at risk of depression, and 45.28% may be at risk of anxiety (Institute of Psychology, 2022). This situation has raised significant concern across society, urgently necessitating effective mental health intervention measures.

Music therapy, as an emerging psychological treatment method, is gradually gaining attention due to its unique advantages and broad application prospects. Music therapy is not merely about listening to music; it is a purposeful, planned, and organized intervention process that uses various forms such as musical experiences, music creation, and music performance to promote integration in physical, emotional, cognitive, and social aspects. In recent years, the application of music therapy in the mental

health of college students has gradually increased, yielding significant research outcomes.

This study aims to investigate the role of music therapy in alleviating academic anxiety and depression among college students, hoping to provide new ideas and references for mental health education in colleges. Firstly, this paper will outline the current state and causes of academic anxiety and depression among college students. Then, it will detail the principles and methods of music therapy and, based on this, focus on analyzing the specific applications and effects of music therapy in alleviating academic anxiety and depression among college students, exploring its possible mechanisms and pathways.

Through this study, the author hope to reveal the potential and value of music therapy in the mental health field of college students, providing scientific and effective mental health intervention methods for mental health educators in colleges. At the same time, the author hope that this study can raise societal awareness of mental health issues among college students, working together to safeguard their mental health and promote their healthy and all-around development.

2 INTRODUCTION TO KEY CONCEPTS

2.1 Music Therapy

Music therapy is a treatment method that uses music to promote physical, mental health, and social skills (Institute of Psychology, 2022). It can stimulate patients' senses through music, effectively alleviating negative emotions, improving anxiety and sleep conditions, and benefiting overall well-being.

Music therapy can be categorized into receptive music therapy, re-creative music therapy, and improvisational music therapy: Receptive music therapy primarily aims at therapeutic goals through listening to music. This form focuses on sensory experiences of music, using elements like melody, rhythm, and harmony to emotionally touch and soothe individuals. Re-creative music therapy emphasizes active patient participation in music creation and performance, with therapists guiding patients to use instruments or sounds to express emotions, improve cognitive and physical functions. Improvisational music therapy stresses achieving therapeutic effects through spontaneous playing without a predetermined plan. This approach encourages patients to express inner feelings through free-flowing music, leading to self-insight and emotional release.

2.2 Academic Anxiety

Academic anxiety is a psychological response tendency characterized by worry about related situations, typically arising in learning contexts. This anxiety may be based on real-life concerns or imagined ones. Common manifestations include uncertainty about one's learning abilities and future prospects, especially when self-esteem is threatened.

Research indicates that moderate academic anxiety can motivate learning and enhance efficiency, but excessive academic anxiety can disrupt attention, affect memory and thinking activities, leading to difficulties, frustration, boredom, or even fear in learning, potentially harming physical and mental health. Additionally, academic anxiety may cause symptoms such as tension, sweating, and sleep disorders.

The causes of academic anxiety mainly include:

1. unreasonable perceptions of oneself or others, such as exaggerating failure risks or negating one's abilities.
2. lack of clear motivation and goals, or having goals that are too high or too low.
3. weak

- willpower and lack of confidence, making it easy to give up or retreat when faced with challenges.
4. environmental pressure and lack of support, including external pressures from family, society, or the education system, and a lack of effective support and assistance.

2.3 Depression

Depression is a complex psychological state involving multiple aspects such as emotions, interests, cognition, physical well-being, and social interactions. It typically manifests as persistent sadness, loss of interest, self-blame, and has significant impacts on an individual's life and health.

Depression initially shows clear signs of emotional decline, with patients experiencing prolonged sadness, hopelessness, and helplessness. This emotional state is not triggered by specific events but rather is a pervasive and difficult-to-shake sense of pain. Depression leads to a loss of interest in activities and things previously enjoyed, whether social, academic, work-related, or hobbies. Patients may find everything uninteresting and lose motivation to participate in any activities. Depression also affects cognitive functions, leading to issues such as memory decline, difficulty concentrating, and decision-making problems. At this point, they may hold negative views about themselves and the world around them, often self-denying and feeling worthless. Depression often comes with a series of physical symptoms, including fatigue, weakness, sleep disorders, and changes in appetite. These physical symptoms further increase the patient's psychological burden and affect their quality of life. Depressed individuals tend to avoid social activities, gradually distancing themselves from others, possibly feeling unable to communicate or fearing judgment or rejection. Long-term social isolation can lead to the loss of support systems, exacerbating feelings of loneliness and helplessness.

3 A REVIEW OF MUSIC THERAPY FOR ALLEVIATING ACADEMIC ANXIETY AMONG COLLEGE STUDENTS

Liang found that group music therapy significantly reduced exam anxiety levels among college students and effectively alleviates various somatic symptoms associated with exam anxiety (Yang et al., 2023). This conclusion is based on a study of 30 college

students from a certain university who exhibited exam anxiety, including 12 males and 18 females. During the research process, participants were tested with the Test Anxiety Inventory (TAI) and screened accordingly. Those with TAI scores of no less than 50 points were selected for further study, which included these 30 students.

Researchers combined receptive music therapy, re-creative music therapy, and improvisational music therapy to design a group music therapy program aimed at relaxing the mind and body, establishing a sense of security, addressing test anxiety, releasing and expressing emotions, reinforcing positive experiences, building positive goals, and stimulating peak experiences to integrate inner strength. They divided 30 participants into a control group and an experimental group, providing the latter with a 4-week intervention. Each week featured different themes, including one offline and one online activity, totaling eight sessions over four weeks. During this period, the control group received no psychological intervention. After collecting data, the researcher used SPSS 25.0 for descriptive statistics, independent samples t-tests, and pre-test and post-test variance analysis on the experimental group's data. The results showed that the difference in TAI scores between the experimental and control groups was statistically significant ($P < 0.001$), indicating that the experimental group's test anxiety levels were significantly alleviated. Additionally, the physical symptoms of the experimental group also improved obviously.

While this study confirmed that group music therapy effectively reduces college students' test anxiety and physical symptoms, it is important to acknowledge its limitations. The sample size was small, and not all academic disciplines were covered, making it difficult to comprehensively analyze the effects of music therapy across different fields. Furthermore, there was a higher proportion of female participants, leading to gender imbalance, which might affect the measurement data and research outcomes. Lastly, the control group received no intervention, so the differences between the groups may not solely result from music therapy but from the mere presence of activities in one group and their absence in the other. Future research will aim to increase the sample size, cover a broader range of academic disciplines, ensure gender balance, and improve the study design to enhance the persuasiveness of the results.

In this study, researchers successfully integrated receptive, re-creative, and improvisational music therapies, demonstrating that group music therapy has

a positive impact on college students by effectively reducing test anxiety and various physical symptoms. Moreover, the therapeutic effects of group music therapy have a certain level of sustainability, continuing to benefit participants even after the treatment ends. However, over time, the effectiveness of music therapy may decrease, potentially leading to a resurgence of test anxiety and physical symptoms. Therefore, the researchers recommend regularly conducting group music therapy sessions at schools to prevent the recurrence of test anxiety symptoms.

Currently, due to uneven economic development levels and resource distribution, music therapy activities at universities across the country are limited and mostly focus on receptive music therapy. For example, Zhang Cong and Zhang Yuanyuan's study on strategies for alleviating college students' anxiety through receptive music therapy (Liang., 2024). The researchers used this technique by having students listen to and feel the music to regulate their emotions and emotional states, thereby reducing academic, social, and employment-related anxieties.

In Tao Zhenzhen's research on how receptive Wuxing (Five Elements) music can regulate college students' anxiety, the researchers pointed out that receptive Wuxing music is based on the theory of Wuxing music therapy and uses receptive music therapy techniques. By listening to and feeling Wuxing music in a quiet environment, different forms and elements of the music correspond to the five elements, aiming to balance Yin and Yang and their mutual generation and overcoming relationships. This method has the effects of regulating emotions, relieving stress, and reducing pain, making it an effective non-pharmacological treatment (Zhang & Zhang, 2024). The researchers noted that although several studies have found the regulatory effect of receptive Wuxing music therapy on anxiety, there are relatively few studies specifically targeting college students. Therefore, this study aims to explore the regulatory effect of receptive Wuxing music on college students' anxiety to help more students lower their anxiety levels, relieve stress, and improve their psychological and physical health.

The study used a randomized controlled intervention design, selecting college students from Jiangxi University of Traditional Chinese Medicine as participants. Those meeting the criteria were randomly divided into three groups: the Wuxing music group with 27 participants, the Western music group with 27 participants, and the control group with 26 participants. The Wuxing music group received receptive Wuxing music therapy, the Western music group listened to major key fast music, and the

control group did not receive any music therapy. The intervention lasted six weeks, with primary outcome measures assessed using the Self-Rating Anxiety Scale (SAS), and secondary outcomes measured using the Symptom Checklist-90 (SCL-90), Sleep Self-Assessment Scale, and heart rate analysis to investigate the relationship between college students' anxiety and these indicators. Data analysis was conducted using SPSS 26.0, and results were obtained through within-group, between-group, multiple comparisons, and correlation analyses. The findings confirmed that: 1) Receptive Wuxing music therapy effectively regulates college students' anxiety, showing a significant decrease in anxiety scores after six weeks of musical intervention compared to the control group, which struggled to manage anxiety in daily life. 2) The effect of receptive Wuxing music therapy on regulating anxiety is comparable to general receptive music therapy and both are superior to the control group, though the Western music group showed significant effects earlier. 3) Receptive Wuxing music therapy also improves college students' mental health and sleep quality and significantly reduces heart rates.

This study investigated the effect of receptive pentatonic music therapy on alleviating anxiety among college students. However, there are still areas for improvement: (1) The research sample was limited to students from a single university with a small sample size, which may lack representativeness. Future studies should expand the sample size and increase diversity. (2) The intervention duration was short; future research should extend the intervention period and explore its impact on effectiveness. (3) This study only assessed immediate effects post-intervention, neglecting long-term effects. Long-term efficacy evaluations are needed. (4) Most observation indicators were highly subjective. Future studies should use more objective metrics like physiological indicators such as heart rate, blood pressure, body temperature, and respiratory rate. (5) The selected music types were limited and did not consider individual preferences. Future studies could allow participants to choose their preferred music types and evaluate different music types' effects on anxiety.

The above research focused on receptive music therapy methods. However, most participants in music therapy follow-ups prefer improvisational music therapy because it allows them to freely play various instruments and express their emotions uniquely through music. Future research should explore improvisational music therapy to enhance its effectiveness.

4 REVIEW OF MUSIC THERAPY'S EFFECT ON ALLEVIATING DEPRESSION AMONG COLLEGE STUDENTS

As society develops, the number of college students increases, leading to higher employment pressure and various psychological issues. These problems can easily cause negative emotions, affecting physical and mental health, potentially leading to depression and even threatening lives. Many studies show that music therapy can help alleviate depressive symptoms and improve mental health among college students, promoting healthier and happier growth.

In Zhong Daiqin's empirical study on group music therapy for improving college students' depressive moods, researchers used group music therapy involving activities related to music experiences, such as listening to songs, singing, playing instruments, and moving to music rhythms. The study confirmed that music therapy could help college students improve and alleviate depressive symptoms, enhancing their mental health levels (Tao, 2023).

Researchers conducted psychological tests on first-year freshmen and selected 15 students as participants based on the depression factor score from the SCL-90, with scores of 2.5 or higher. The measurement tools used were: 1. The Self-Rating Anxiety Scale (SAS) for initial screening; 2. The Self-Rating Depression Scale (SDS) for pre-test and post-test measurements. During the study, group music therapy was implemented five times, once a week for 90 minutes each session, with a pre-test conducted before each session. The therapy sessions were themed as follows: (1) Music Brings Us Together, (2) Songs Accompany Our Growth, (3) Discovering Ourselves Through Musical Journeys, (4) Communication Begins with Playing Instruments, and (5) The Collision of Melodies and Colors. After the five sessions, a post-test was administered, and both quantitative and qualitative data were collected. Qualitative analysis was performed based on survey forms filled out by group members, interviews with some individual members after the experiment, and records of discussions during each themed session. The results showed that group music therapy effectively improved and alleviated depressive symptoms among college students, as evidenced by significant changes in SDS scores before and after the therapy, with lower total SDS scores post-therapy. Most participants felt reduced stress and better overall well-being after the group activities, along with increased self-confidence, more positive attitudes

towards life, and greater focus on work and studies, all contributing to the promotion of mental health among college students.

The innovative and creative nature of this group music therapy made it easily acceptable to students and demonstrated good effectiveness in alleviating depressive symptoms. However, the study has some limitations: firstly, the therapy consisted of five different themes over five sessions, each lasting 90 minutes, which is an appropriate duration but insufficient in number; additional 2-4 new topics should be added. Secondly, the quantitative research was too simplistic, focusing only on SDS pre-tests and post-tests without including a control group, making the quantitative results insufficient for scientifically validating the efficacy of group music therapy. Lastly, the participant pool was limited to a single group; diversity should be increased by involving students from different colleges and majors to make the results more scientific and reliable. On the other hand, the findings revealed that group music therapy not only effectively improves depressive symptoms but also enhances interpersonal interactions and self-awareness, aligning well with the long-term developmental needs of college students. Therefore, future research could delve deeper into these aspects.

Wang Xiaoyi and other researchers aimed to explore the intervention effects of music therapy on alleviating depressive emotions among medical students by combining active and passive treatment methods to maximize therapeutic outcomes (Zhong, 2016). The music therapy materials used included not only relaxation music and Western symphonies commonly used in psychological treatments but also innovatively incorporated Chinese classical music. The study employed a balanced group pretest-posttest experimental design, utilizing the Symptom Checklist-90 (SCL-90) and Self-Rating Depression Scale (SDS) to screen undergraduate medical students at North China University of Science and Technology. Participants with SDS scores above 40 and SCL-90 depression subscale scores above 2.0 were selected, resulting in a total of 66 participants divided into an experimental group and a control group, each consisting of 33 individuals. The study utilized a pretest-posttest design for both groups. The experimental group received eight sessions of music therapy over two months, while the control group received no intervention. Both groups were assessed using SDS and SCL-90 before and after the intervention. Independent samples t-tests and paired samples t-tests were conducted on the experimental data using SPSS 17.0 for quantitative analysis. The

intervention results showed: (1) There was no statistically significant difference in SDS scores and SCL-90 depression subscale scores between the experimental and control groups before the intervention. (2) After the intervention, there was a statistically significant difference in SDS scores and SCL-90 depression subscale scores between the two groups, with the experimental group showing lower scores than the control group. (3) There was no statistically significant difference in SDS scores and SCL-90 depression subscale scores between the control group before and after the intervention. (4) In the experimental group, there was a statistically significant difference in SDS scores and SCL-90 depression subscale scores before and after the intervention, with lower scores post-intervention. Therefore, the study results demonstrate that music therapy has a significant effect on alleviating depressive emotions among college students, while the control group results indicate that depressive emotional states do not improve effectively with increased familiarity and adaptation to university life. This study combined active and passive treatment methods, using music therapy materials that included not only relaxation music and Western symphonies commonly used in psychological treatments but also innovatively incorporating Chinese classical music. This type of Chinese classical music possesses a unique, indescribable beauty that can have a calming and soothing effect on depressive emotions. The study actively applied active music therapy, encouraging participants to actively engage in playing, singing, and rhythmic activities, emphasizing their level of participation in music to better integrate them into the musical experience, bringing them closer to the music, allowing them to better feel the music, become part of it, and express their emotions through music, providing a good outlet for their depressive emotions. Additionally, observing the experimental process revealed that most participants were able to actively and seriously engage in the entire experiment, completing each task well and discussing and sharing their feelings with group members. Thus, this study confirms that the activity plan designed by integrating music therapy techniques and some group counseling formats for addressing depressive emotions among college students is operable and feasible.

In a study by Wan Ying and other researchers on the efficacy factors of group music therapy for alleviating depressive symptoms in college students, the researchers focused on the depressive symptoms of college students. They used the Symptom Checklist-90 (SCL-90), Self-Rating Depression Scale

(SDS), Irvin Yalom's Efficacy Factor Scale, and SPSS 20.0 data processing software as research tools. They conducted group music therapy interventions on college students with varying degrees of depression to explore effective ways to improve depressive symptoms through group music therapy. They also analyzed the work efficiency and development of these efficacy factors at different stages of group music therapy based on Irvin Yalom's 'efficacy factors,' validating their effectiveness (Wang et al., 2020). The study found that: first, the work efficiency of efficacy factors varies at different stages of group music therapy, with dominant factors including existential awareness, emotional release, interpersonal learning, and group cohesion; second, each efficacy factor gradually increases in level as the intervention progresses, reaching its peak efficiency; third, after the group music therapy intervention, the participants' depressive conditions showed significant improvement. Finally, the researchers hope that this study can explore and develop the field of music therapy in China, providing more ideas for future music therapy research and enabling music therapy to serve more people. Other studies also examine the impact of music therapy on different groups (Wang et al., 2011, Zhang et al., 2022, Wu, 2002).

In summary, employing group music therapy activities can effectively alleviate and relieve depressive emotions in college students, improving their psychological state and optimizing their psychological qualities, which is feasible and has good potential for widespread application. Currently, there are numerous studies in China on improving college students' mental health through group counseling. From the perspective of counseling forms, targeted group psychological counseling aimed at helping college students regulate depressive symptoms is becoming increasingly diverse. However, research on using group music therapy to help college students with depressive symptoms is still scarce. In future research, beneficial and effective attempts can be made in this area, further exploring and developing this field, enriching the forms and contents of group psychological counseling for college students, and providing reference research materials and practical models for group music therapy counseling in Chinese universities.

5 CONCLUSION

After a comprehensive review and analysis of extensive literature on the use of music therapy in alleviating academic anxiety and depression among

college students, this study concludes that music therapy, as a psychological intervention, has shown significant effectiveness in reducing academic anxiety and depression among college students. Through its unique emotional and mood-regulating functions, music therapy can effectively lower anxiety levels, alleviate depressive symptoms, boost self-confidence, and foster a positive and optimistic outlook on life, contributing to healthier and happier growth. Additionally, the diversity and flexibility of music therapy offer broad possibilities for its application in mental health interventions for college students. From simple music listening to complex music creation and performance, music therapy can be tailored to individual differences and needs, achieving precise treatment. This personalized approach not only enhances treatment outcomes but also increases college students' acceptance and participation in music therapy.

This study also highlights future research directions and challenges. While music therapy has achieved notable results in alleviating academic anxiety and depression among college students, further investigation is needed into its long-term effects and mechanisms, as well as its combined application with other psychological interventions. Moreover, the personalized design and optimization of music therapy for college students from different cultural backgrounds, personality types, and levels of academic pressure deserve deeper exploration.

In summary, music therapy, as an effective mental health intervention, holds great potential and significant practical value in alleviating academic anxiety and depression among college students. In the future, the author hopes more researchers will focus on this field, jointly promoting the in-depth development of music therapy in the mental health of college students, contributing more wisdom and strength to their psychological well-being and all-around development.

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