

Exploring the Effect of Receptive Music Therapy to Reduce Anxiety Symptoms for Nanjing College Students

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Abstract: College students' mental health attracted great attention from the public. Mental health can influence personal relationships, study, works and other aspects. In order to help college students reduce the anxiety level, this pilot study was conducted at Nanjing Normal University Music Therapy Room, and adapted receptive music therapy methods to test how receptive music therapy influences students' anxiety symptoms. 12 college-aged participants were divided into 3 groups and experienced a 45 minutes receptive music therapy session.

Keywords: Receptive Music Therapy; Music and Imagery; Anxiety; College Students

Introduction

Modern college students generally face various anxiety problems. These anxieties come from many aspects such as academic pressure, employment pressure, interpersonal relationship and economic pressure. First of all, academic pressure is a major source of anxiety that college students often face^[1]. College students need to deal with a large number of study tasks, exam pressure, essay writing, etc., which increase their stress and anxiety. At the same time, college students also have to face the competitive job market, in order to have a better job opportunity, they need to perform well in their studies, which also increases their anxiety. Secondly, employment pressure is also a common anxiety problem faced by college students^[2]. With the fierce competition in modern society, the job market has higher and higher requirements for college students, and many college students feel anxious in order to find the ideal job. They may face problems such as lack of job opportunities, high job requirements, and fierce competition for jobs, all of which bring a lot of pressure and anxiety to college students. In addition, interpersonal problems are also a frequent source of anxiety for college students^[3]. College students enter a completely new environment and need to adapt to new interpersonal relationships and build new friendships and social circles. However, some college students may feel anxious because of social barriers, low self-esteem and other reasons, and worry that they can not fit into the new social circle, which brings them a sense of anxiety. Finally, financial pressure is also a common anxiety problem faced by college students^[4]. College students usually face financial pressures such as tuition fees, living expenses, and housing costs. Due to the limited economic conditions, some college students may need to work part-time at the same time and try to earn their living expenses, which brings them extra pressure and anxiety.

Anxiety is a negative motivational state that affects daily living and can negatively affect cognitive performance and attention^[5]. Some physical symptoms related to anxiety or stress levels were also observed. Abdel Wahed and Hassan, for example, found a significant association between obesity and stress^[6]. Kohlmann and Weidner (1996), and Gupta and colleagues (2009) also found significant associations between BMI and anxiety or stress scores, respectively^{[7][8]}. There was little change in body weight in the short term, but logistic regression analysis found a greater risk^[9]. Serlachius and colleagues also found that anxiety affected students' sleep quality.

Anxiety isn't just a mental state, it can have physical effects as well. Experimental evidence shows a significant association between anxiety and obesity. People in an anxious state are often more likely to overeat, leading to weight gain. Moreover, anxiety also affect physiological processes such as body metabolism and hormone secretion, further increasing the risk of obesity to some extent.

In addition to obesity, anxiety is also strongly linked to sleep quality. Anxiety often makes it difficult to fall asleep, easy to wake up, or shallow and insufficient sleep, which affects the quality of sleep. Long-term sleep problems can further increase the level of anxiety, creating a vicious cycle.

Furthermore, anxiety can have a negative impact on cognitive ability and attention. In a state of anxiety, people often have difficulty concentrating, and their memory and thinking skills are affected. This not only affects the efficiency of study and work, but may also lead to further feelings of stress and anxiety.

Therefore, anxiety is not just a mental state, it can also negatively affect physical health and cognitive abilities. Timely and effective coping strategies, such as seeking psychological counseling, improving lifestyle, and practicing relaxation techniques, are very important to reduce anxiety and maintain physical and mental health. Those studies included college students as the sample population from the freshman year to the graduate students from various countries. As a matter of fact, anxiety and stress have interfere students' physical health. Moreover, students have been reported that they are dissatisfied with sleeping habits, and worried about the sleeping qualities because of anxiety/stress.

The existing researches mainly focus on the current situation and factors analysis of college students' anxiety, and there are few researches on the treatment and intervention methods of college students' anxiety. Among the few treatment and intervention methods, the main ones are mental health education, self-emotion regulation, social support, exercise prescription^[10]. As a newly emerging discipline, music therapy has received widespread attention, but there are few studies on it as an intervention, which is exactly the focus of this study.

Receptive Music Therapy

Music therapy is more than simply listening to music, and it is a comprehensive approach to therapy that involves a variety of techniques and activities. Music therapists choose music and therapeutic activities that are appropriate for the needs and goals of the individual to promote physical and mental health and recovery. Receptive music therapy, creative music therapy, reconstructive music therapy and improvisational music therapy are four typical techniques^[11]. For those who are not familiar with music therapy, it may be thought that music therapy in the clinic is just listening to music. However, most music therapy techniques require the client to engage in music therapy activities, such as playing an instrument, singing and/or doing some movements to the music. All activities or techniques are designed according to the client's personal goals, objectives and preferences, so the music therapist should not recommend music or songs to a person before conducting an assessment.

The goal of music therapy is to promote physical and mental health and healing through the power of music^[11]. Receptive music therapy is the practice of listening to music to help individuals relax and reduce stress and anxiety^[12]. Creative music therapy encourages individuals to express their emotions, creativity, and self-awareness by playing an instrument or creating music. Reconstructive music therapy refers to the use of music to allow individuals to rebuild and restore specific abilities, such as speech and motor coordination. Improvisational music therapy promotes emotional expression and communication through improvisation and expression of music.

The choice and application of music therapy techniques should be based on the individual's needs and goals. After an initial assessment with the client, the music therapist develops a personalized treatment plan based on the client's needs and personal preferences. This means that different people may get different music recommendations or therapeutic activities. Music therapists need to understand the specific needs and background of each individual to ensure the effectiveness and safety of the treatment.

In the receptive music therapy clinic, clients can use verbal or non-verbal way to react to the music while listening. Music can be recorded, live performed or created by both clients and therapists. Clients are suppose to focus on how their physical, emotional or rational changes rather than focusing on the music, so the typical aims for clients in the receptive music therapy clinics are to improve hearing abilities; to relax; to build personal and community relationship. Therefore, activities that are adapted can be diverse, which can include lyrics analysis, song writing, music and imagery, guided imagery and music, music reinforcement and other techniques.

Music therapists play a necessary role in reducing anxiety, improving sleep quality, and helping to relieve physical symptoms and psychological distress^{[13][14][15]}. Music therapists guide clients to their feelings, confusion, and what makes them feel strong. Music therapists can then help participants enhance positive emotions and bring those feelings back to real life, as well as help clients unwind and heal on an emotional and psychological level through the power of music.

Music has a unique role in emotional expression and emotional regulation, which can stimulate people's inner feelings and emotions^[16]. Through musical guidance, music therapists help clients explore and express their emotions, find their inner confusion and struggles, and find what makes them feel strong and positive.

Music therapists can use different music and musical activities to help clients enhance positive emotions. They can choose music that suits the emotional needs of their clients, inspiring positive emotions through elements such as the rhythm, melody and lyrics of the music. In

addition, music therapists can help clients find inner strength and positive emotions through activities such as music composition, song singing, music appreciation, and physical movement.

The goal of a music therapist is to bring the positive emotions of the client back to real life. Through musical guidance and therapy, they help clients develop positive emotions and mindsets and apply this positive feeling and experience to their daily lives. Music therapists work with clients to explore how to translate positive emotions in music into positive behavior and emotional expression in real life.

Therefore, music therapists play an important role in reducing anxiety, improving sleep quality, and helping to relieve physical symptoms and psychological distress. They help clients find their inner emotions and strength through musical guidance and therapy, and apply this positive feeling and experience to real life situations. Music therapists play a key guiding and supporting role in helping clients enhance their positive emotions.

Music Guided Imagery (GIM) is one of the receptive music therapy techniques that has been chosen in this study, GIM is a psychotherapeutic process that was developed by Helen Bonny. Current study adapted its relaxation and imagery techniques. Music that has been used included soft volume, repetitive melodies and without too many instruments. Music relaxing training is necessary and can help participants get ready^[17]. Therefore, music therapists started with a 5-10 minutes relaxation activity in each session. Once clients are not fully relaxed, their bodies are not stiff, and they will feel less nervous.

The current study

Since anxiety is a threat to the mental and physical health of college students, this research paper attempts to use music and imagination to help college students reduce stress and improve their mental health. Based on Serlachius' findings, anxiety can affect sleep, so the research team decided to record participants' sleep habits and timing in the current study^[9].

Sleep is very important for the physical and mental health of college students. Stress and anxiety often interfere with the quality of sleep in college students, resulting in difficulty falling asleep, erratic sleep, or poor sleep quality. This sleep problem may further exacerbate their anxiety and stress, creating a vicious cycle. Therefore, this study aimed to explore the potential of music and imagination in improving sleep quality and relieving anxiety in college students.

The research team decided to record the participants' sleep habits and timing to understand the impact of anxiety on sleep. By monitoring the participants' sleep cycles, sleep duration and sleep quality, among other factors, the research team was able to obtain sleep data related to anxiety. These data will provide insight into the relationship between anxiety and sleep, and provide evidence and reference for subsequent musical and imaginative interventions.

GIM was chosen as the interventions for the study because of their unique emotion-regulating and relaxing effects. Music can trigger emotional resonance through elements such as rhythm, melody and lyrics to help college students relax, relieve anxiety and stress. Imagination exercises can help adjust emotions and reduce anxiety by guiding college students to construct a positive and relaxed mental picture.

By combining the intervention with music and imagination, the research team hopes to help college students reduce anxiety levels, improve sleep quality, and boost their mental health. By recording the participants' sleep habits and timing, the research team could understand the relationship between anxiety and sleep and provide data to support the evaluation of the intervention's effectiveness.

In conclusion, this study aims to use music and imagination to help college students reduce stress and improve their mental health. The research team decided to record the participants' sleep habits and timing to gain insight into the effects of anxiety on sleep and to provide a basis for subsequent interventions. By combining the intervention with music and imagination, the research team hopes to be able to provide effective psychological support to college students, promoting their sleep quality and mental health.

Therefore, a questionnaire about how students are knowing music therapy and whether they would like to participate and experience receptive music therapy was public online. 235 questionnaires were received back, 92.34% of whom are college students so those who are high school students and graduate students were excluded. Additionally, participants who were not from Nanjing were excluded as well. Then, in order to continue the rest experimental research, a "Do you sleep on time" activity was designed. People who would like to experience Receptive Music Therapy, need to record their sleep situation through this activity for 21 days successively. This activity has been pub-

lished through campus websites, WeChat, QQ, and Weibo, which are popular social work apps in China. Finally, a total of 71 college-aged students from Nanjing Normal University of Special Education participated in this event, and 12 of them recorded their sleep situation 21 days. All participants were signed the informed consent and agreed with this publication. The school research department has approved this experimentation and supervised the entire process. Participants have agreed with this intervention and publication.

The aims of this study will be

To examine if receptive music therapy helps reduce general symptoms of anxiety.

To examine if participants who are not familiar with other participants will negatively influence the effect of reducing anxiety level.

Participants

This study will include those undergraduate students in Nanjing as research objects. After recording their sleep for 21 days, only 12 female participants were eligible to enter the study. They were aged between 18 and 23 years (mean age 20.83 years, standard deviation 1.267 years) and were divided into three different groups to receive the music therapy intervention.

The 12 female participants were rigorously screened before entering the study to ensure they met the study's needs and criteria. The criteria include being between 18 and 23 years old, having no history of serious mental illness, having no hearing impairment and not undergoing other forms of psychotherapy. With this screening, the research team wanted to ensure that participants' outcomes accurately reflected the effects of music therapy.

Before being assigned to different groups, the participants were randomly assigned to three groups to ensure the randomness and reliability of the experiment. Each group includes four participants, and each group will receive a different form of music therapy intervention. These interventions include: the first group will receive active participation in music therapy, the second group will receive passive participation in music therapy, and the third group will be the control group and will not receive any music therapy intervention.

Throughout the study, participants will be asked to regularly participate in music therapy interventions and record personal feelings and experiences. At the same time, the research team will also monitor changes in the participants' sleep quality and anxiety levels. Through the collection and analysis of this data, the research team will be able to assess the impact of different music therapy interventions on participants and further explore the potential of music therapy in reducing anxiety and improving sleep quality.

Table 1: Basic Information

No.	Grade	Familiarity of Music Therapy	Age/year(s)	
			Mean	SD
1	4	2	23	
2	2	2	20	
3	3	2	21	
4	2	2	20	
5	2	2	20	
6	4	3	21	
7	3	3	22	20.83
8	3	3	22	1.267
9	3	1	21	
10	3	1	21	
11	2	1	18	
12	3	1	21	

*Grade: 1=Freshmen 2=Sophomore 3=Junior 4=Senior

* Familiarity of Music Therapy: 1=Unfamiliar with music therapy; 2=Knowing a little bit of music therapy; 3=Have been taking some music therapy classes

Methods

A pre - and post-test was also performed before and after the 45-minute passive participatory music therapy experience. Participants were asked to fill out a self-rated anxiety questionnaire. There are four levels of anxiety: Level 1, no anxiety at all; Level two, slightly anxious; Level 3, anxiety most of the time; Level four, very anxious or in a state of constant anxiety. In addition, a survey was attached that allowed participants to express in words any thoughts other than the anxiety level questionnaire.

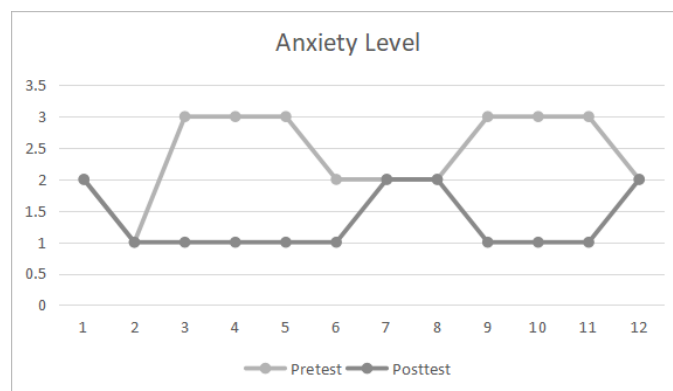
By taking measurements before and after the activity, the research team was able to compare changes in the participants' anxiety levels before and after receiving passive participatory music therapy. Such before-and-after comparisons can help researchers assess the effects of music therapy on anxiety and determine the reliability of its effects. At the same time, the additional questionnaire also provided the participants with the opportunity to express other feelings and experiences, which helped the research team to fully understand the mental state and psychological experience of the participants in the music therapy experience.

Questionnaire survey is a common research tool, through the participants' self-report, can obtain their subjective feelings and experience. In this study, the anxiety level questionnaire provided an objective quantitative indicator that helped researchers assess changes in participants' anxiety levels before and after receiving music therapy. At the same time, additional questionnaires provided a more nuanced and personalized perspective, allowing participants to express in their own words aspects of their feelings and experiences in addition to their anxiety levels. Such a comprehensive assessment approach helps researchers obtain more comprehensive and accurate data to better understand the role and effects of music therapy on anxiety.

By taking pre - and post-tests before and after the music therapy experience, the research team was able to assess changes in the participants' anxiety levels after receiving passive participatory music therapy. The anxiety level questionnaire provides an objective quantitative indicator, while the additional questionnaire provides a more personalized and nuanced perspective. Such a comprehensive assessment approach will help researchers gain a more complete understanding of the effects of music therapy on anxiety and provide valuable data and information for further research.

Results

Seven participants show decreasing anxiety level after 45 minutes receptive music therapy and five participants marked the same anxiety level. They enjoyed this experience but because of environmental issues, they were not able to fully concentrate on the guide language. From the result, the average of anxiety level after receptive music therapy is 1.33, which is lower than the average of anxiety level, 2.42 at pretest. The Standardize Deviation is also showing a decreasing trend.



*Pretest Anxiety Level (Mean=2.42, SD=0.67)

*Posttest Anxiety Level (Mean=1.33, SD=0.49)

Conclusion

Participants Highly affirm this experience activity and they demonstrated that they would like to re-try again. For example, participant P, a female student majoring in language in her junior year, illustrated that she felt calm and relaxed after this experience, and seemed like having a very long and beautiful dream. She is fully free in her dream, so she can go anywhere she likes, as well as felt that the whole atmos-

there was very relaxed and friendly. She guided her imagination and felt clearly relaxed after this activity.

Participant L, a female student, majoring at Special Education Major, said she was physically and mentally tired this morning. However, after this experience, she felt comfortable, relaxed and pressure free. The images she had during the whole process had a kind of combination of reality and vitality.

Nevertheless, there were some suggestions received from participants. For example, participants felt the sound of air conditioning, and other sounds in the environment need to be attenuated is a little loud, and it took a long time to fully concentrate and relax at the beginning.

Based on participants' reflections, there are some distractions in the room, such as air-conditioning. Therefore, headphones can be considered to adapt in the future research in order to isolate noise. Additionally, the research team found the familiar between participants in one group may influence the anxiety and relaxation levels. Hence, the familiarity between participant numbers will be considered in the future.

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Jiangsu, 2021, Jiangsu Provincial Department of Education “14th Five-Year” plan key subject in 2021 <Research on Innovation of Talent Training Mode of Special Music Education under the Perspective of “Integration”> (T-b/2021/38)

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Nanjing Normal University of Special Education, 2021, General project of education and teaching reform <Construction and application of music therapy evaluation teaching resource bank> (2022XJJG025)

Disclosure statement. The authors report there are no competing interests to declare.