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STUDY ON THE EFFECT OF DANCE MOVEMENT THERAPY ON PSYCHIATRIC REHABILITATION OF PATIENTS WITH ANXIETY DISORDERS

Aiyu Zhang[1] & Ningning He[2*]

[1]School of Sport and Health Sciences, Yangtze Normal University, Chongqing 408100, China
[2]Faculty for Physical Education, Shanghai International Studies University, Shanghai 201620, China

SUMMARY

Introduction: *Dance movement therapy is one of the most effective treatments for mental illnesses so far, which is also the easiest one to be promoted. Accompanied by the sound of music, patients use body language to express their feelings and inner conflicts in an almost subconscious state, to achieve the purpose of relieving anxiety. This study selects students from a university in Chongqing Province, China as the research subjects to explore the effect of dance movement therapy on improving anxiety for patients with anxiety disorders.*

Subjects and methods: *Students who claimed to be troubled by anxiety were invited to participate in the HAMA questionnaire test. 23 volunteers, with a test score greater than 14 points, were selected to participate in the dance movement therapy. The HAMA test was conducted three times at the time of one week, one month, and three months after dance movement therapies, and the test results were recorded. The results were analyzed by the statistical tool SPSS27.0.*

Results: *There was no significant difference in the total HAMA score of the participants after one week of dance training ($t = 0.581$, $P = 0.567$). The total HAMA score of the participants was statistically significant compared with that before participation after one month of dance training ($t = 7.867$, $P < 0.001$). The total HAMA score of the participants decreased significantly after one month of dance training ($t = 18.346$, $P < 0.001$).*

Conclusions: *Short-term dance cannot ease anxiety, but the dance movement therapy lasting over one month can effectively improve anxiety.*

Key words: *dance movement therapy -anxiety disorders - sports - therapeutic effect*

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INTRODUCTION

Dance movement therapy, also known as DMT or dance therapy, was proposed by Marian Chace in the 1940s. The therapy is a psychotherapeutic approach that helps treat individuals through movement and non-verbal expressions. It is based on the theory that movement can reflect personal thoughts and emotions, as well as the knowledge of Jungian analytical psychology, Gestalt psychology, and self-psychology (Kiepe et al. 2012). Dance therapy is different from common exercises including martial arts, fitness qigong, aerobics, yoga, and Taijiquan. The American dance therapy association defines it as a method to unify the physical and mental emotions of patients through dance movements (Li et al. 2021). Today's dance therapists believe that dance can enliven a senseless life through the liberation of the limbs, and release the emotions lurking in the heart such as anxiety, anger, sadness, and depression in a safe way, to experience self-existence. This experience of self-existence can effectively relieve depression and strengthen self-cognitive management, thereby effectively regulating anxiety disorders (Engelhard & Vulcan, 2021). Specifically, using the body as the carrier and the dance movement as the form, dance therapy stimulates the psychological problems hidden in the depths through the observation and exploration of the body, to achieve the purpose of catharsis and epiphany (Kleinlooh et al. 2022).

Anxiety disorders are recognized as a public health problem across the world. According to the estimates by the World Health Organization (WHO), 264 million people worldwide are suffering from anxiety disorders (Vanderlind et al. 2022). Anxiety disorder is different from normal anxiety emotional responses. First, anxiety disorder is a kind of anxiety, tension, and fear without a clear object, content, or reason. Second, it has potential dangers. For example, the patient usually feels that some threat is coming, but he couldn't describe it concretely. Third, anxiety disorder will last for long periods, which may beyond several weeks, months, or even years (Albery et al. 2021). In addition, evidence shows that anxiety disorders often accompany other major chronic conditions. If left untreated, anxiety disorders can lead to physical dysfunction and negatively impact overall health. Not only do simple anxiety disorders have these symptoms, but some psychiatric disorders may also produce anxiety symptoms, such as schizophrenia, obsessive-compulsive disorder, and other mental illnesses. The anxiety symptom is only one of the symptoms of the above psychiatric disorder. The corresponding treatments may be more complicated than those of simple anxiety disorders as other symptoms of such patients should also be considered at the same time. Therefore, these psychiatric disorders should be distinguished from sheer anxiety disorders (Megreya et al. 2021). The current studies prove that physical exercise therapy can

effectively accelerate blood circulation, thereby improving the body's metabolism and physical fitness, and can constantly adjust emotions, thereby promoting mental health. Dance movement therapy is a typical representative of physical exercise therapy and has become an effective way to prevent, treat and relieve anxiety disorders.

At present, the dance therapy industry in China is in the initial stage of vigorous development, but there are few related research contents. This paper selects adult college students, troubled by anxiety disorders, as the research subjects, who are given the dance movement therapy intervention. The experimental results are scientifically analyzed and sorted out to provide a reference for improving anxiety in patients with anxiety disorders through dance movement therapy (Ko 2020).

SUBJECTS AND METHODS

Research subjects

This study selects college students from a university in Chongqing as the research subjects and invites students who claim to be troubled by anxiety to take the HAMA questionnaire test. 23 volunteers with a test score greater than 14 were selected for participating in the dance therapy experiment. All research subjects are informed and they agree to the purpose and principle of the experiment.

Dance therapy schedule

The treatment place is in the school gymnasium.

Duration and experimental times should be determined according to the anxiety level of subjects and their willingness to treat, theoretically at least once a week for about 30 minutes each time.

Specific measures

1. Preparation Phase. When starting a therapeutic activity, the dance therapist must try to feel the atmosphere and choose matched music for the scene. The same music or the same movements cannot appear every time. There will be many different changes in the mental state of participants over time, which will help the therapist change the treatment schedule (Jung-Mok et al. 2019).

2. Intermediate Phase. Participants are guided to enliven all parts of the body, increase physical awareness, and lead expressive movements as much as possible. The therapist needs to select adaptive and healthy parts from the voluntary movements of patients, to promote this type of expressive movement and enhance the emotional expression and experience in one group (Kleinlooh et al. 2021).

3. Ending Phase. Participants should be guided to relieve the heightened emotions and terminate the therapeutic activity in a calm atmosphere.

4. Meeting discussion. Therapists hold meetings before and after therapy activities. To make the treatment be carried out in a meaningful and safe manner, after the treatment activities, the therapists need to summarize patients' psychological changes that occurred during the activities and try to allow the treatment team to share all the beneficial treatment information.

Application of psychological scale

The Hamilton Anxiety Scale (HAMA) compiled by Hamilton in 1959 is used in this study, which has 14 items, including anxiety mood, tension, fears, insomnia, cognitive, depressed mood, muscular system, sensory system, cardiovascular symptoms, respiratory symptoms, gastrointestinal symptoms, genitourinary symptoms, autonomic symptoms, and behavior at interview. This scale is one of the most widely used scales in psychiatry and is assessed by doctors. It can well measure the treatment effect and compare the symptoms changes before and after treatment. When using factor analysis for efficacy analysis, it can also accurately reflect the changes of each target symptom group (Rodriguez-Seijas et al. 2020).

The assessment method of this scale is simple and easy to implement and can be used for anxiety disorders, but it is not suitable for estimating anxiety states in various mental illnesses. The Shanghai Mental Health Center has conducted a joint examination of 19 patients with anxiety disorders. The consistency between the two evaluators is quite good. The reliability coefficient of the total score evaluation is 0.93, the reliability coefficient of each symptom score is from 0.83 to1.00, and the scale validity coefficient is 0.36 ($P < 0.05$).

The HAMA score ranges from 0 to 4 on a 5-point scale: (0) asymptomatic, (1) mild, (2) moderate, (3) severe, (4) extremely severe. According to the data provided by the National Psychiatric Scale Collaborative Group, if the total score exceeds 29, it may be severe anxiety. If it exceeds 21, it must be obvious anxiety. If it exceeds 14, it must be anxious. If it exceeds 7, it may be anxiety. If it is less than 7, there is no anxiety symptom. Generally, the cut-off point value of the HAMA 14-item version is 14. (Riskind et al. 1987).

Mathematical statistics

The collected relevant data will be input and organized in Excel. The experimental data will be analyzed through systematic analysis in SPSS27.0 software to obtain relevant statistical data.

RESULTS

All 23 subjects were tested for HAMA before dance therapy and the data were recorded. The HAMA test was repeated three times at the time of one week, one month, and three months after each dance therapy. SPSS27.0 was used to analyze the experimental data, and the statistical results of the data description are shown in Table 1. The initial HAMA scores were paired with the HAMA scores at the time of one week, one month, and three months after dance therapy respectively, then the paired samples *t*-test

was performed, and the results are shown in Table 2.

Table 1. Data description statistics

	N	Minimum	Maximum	Mean	Std. Deviation	Variance
Initial HAMA Score	23	15.00	29.00	23.000	4.44154	19.727
After one week	23	14.00	30.00	22.826	4.29219	18.423
After one month	23	10.00	27.00	20.173	4.94196	24.423
After three months	23	5.00	23.00	13.956	4.78139	22.862

Table 2. Paired sample *t*-test

	M	S	95% CI	*t*	*df*	*P*
After one week	0.174	1.435	-0.447-0.794	0.581	22	0.567
After one month	2.826	1.723	2.081-3.571	7.867	22	0.000
After three months	9.043	2.364	8.021-10.066	18.346	22	0.000

DISCUSSION

Dance therapy principles

Appropriate music can facilitate the emotional expression process while regulating movements. To achieve a good therapeutic effect, it is necessary to adjust the repertoire according to the treatment progress. The music includes classical, jazz, pop, folk music, etc. In principle, the tunes that patients can understand the lyrics or the tunes with some special meaning should be avoided, which is to prevent the appearance of thoughts that are not related to the treatment and the unnecessary emotions (Gimenez-Llort & Castillo-Mariqueo 2020).

In addition, dance therapists need to verbally explain the symbolic meaning of the dance movements performed by the group, which is conducive to promoting the participants' understanding of the movements and helping them ultimately achieve emotional expression through the movements. Non-verbal expressions such as movements can be interpreted, and such verbal expressions themselves can deepen participants' awareness of their experiences (Christensen et al. 2021).

Results analysis before the experiment and after one week of the experiment

Overall, before the dance therapy experiment, the HAMA scores of the 23 subjects ranged from 15 to 29, with a mean of 23. After one week of the experiment, the HAMA scores of the 23 subjects ranged from 14 to 30, with a mean of 22.826. The results of this experiment proved that after one week of dance training, there was no significant difference in the total HAMA score of the participants compared with that before participation (t = 0.581, P = 0.567). The P-value was greater than 0.05, and there was no significant statistical significance between the before and after data. From an individual level, the anxiety of some subjects has not been relieved but has also shown a slight increase.

The reasons for the above problems are as follows. First, the patients differ in their ability to master dance skills. Since many patients have not been exposed to dance sports before, they cannot master this exercise in depth and quickly, nor can they appreciate the benefits brought by mastering dance skills. Therefore, dance exercises at this stage have no effects on improving their depression. Second, in the process of learning dance skills, some subjects showed fear of difficulty and low enthusiasm. In addition, a small number of subjects were not accustomed to dancing in public, which may be due to their traits, and the cause of mild avoidant personality disorder is not excluded. In this case, dance therapy itself has become a psychological burden on these subjects (Koch et al. 2019).

The above reasons can explain that after one week of dance training, the overall anxiety of the subjects did not change, and some individuals experienced the aggravation of anxiety. In the follow-up experiment, we tried to use the active guidance of psychologists to eliminate abnormal factors, and the results is good.

Results analysis after one month of the experiment

After one month of the dance therapy experiment, the HAMA scores of the 23 subjects ranged from 10 to 27, with a mean of 20.173, a decrease of 2.827 compared to that before the experiment. The results show that after one month of dance training, the total HAMA score of the participants was statistically significant compared with that before participation (t = 7.867, P < 0.001). We can see the initial effect of dance therapy. Although the HAMA score decreased by 12.29%, it is not ideal data. This result only proves that one-month dance therapy can improve anxiety, but the effect is relatively weak.

At this stage, some subjects only have a rough grasp of the basic steps and dance hand positions. They need to spend much time and energy reviewing some basic movements they have learned before during the class. Only when mastering the sequence of the entire dance, can they gradually enter the consolidation and performance stage. The individual data of these patients are almost unchanged compared with those before the experiment. Dance therapy has yielded significant results for individuals who have mastered basic dance skills

(Laird et al. 2021).

Results analysis before the experiment and after three months of the experiment

After three months of the experiment, the anxiety of these subjects changed significantly. The HAMA scores of all subjects ranged from 5 to 23, with an average value of 13.956, which was 9.044 lower than that before the experiment, a decrease of 39.3%. The results proved that after one month of dance training, the total HAMA score of the participants decreased significantly compared with that before participation (t = 18.346, P < 0.001), and the average HAMA score was already lower than the cut-off value in HAMA (HAMA = 13.956 < 14).

Analysis of the reasons may lie in the particularity of dance therapy. Different from other sports, dance therapy can be integrated with dance music to achieve the dual effect of physical exercise and spiritual enjoyment. In the process of the whole exercise, patients cultivate their minds, and effectively vent their negative emotions in the collaborative role of music and partners, thereby improving the existing anxiety tendency (Buschert et al. 2019).

CONCLUSIONS

This paper investigates whether dance movement therapy has a positive effect on the improvement of anxiety. Specifically, after one week of dance movement therapy, no effect was observed. After one month, an improvement effect in anxiety was observed, but the effect was weak. After three months, the anxiety of the subjects was greatly improved. It is confirmed through these experiments that continuous dance movement therapy can effectively improve anxiety.

Limited by objective conditions, this study also has many shortcomings. First, the research scope is narrow. This study only selects college students as the research subjects, which lacks comprehensive and systematic research on a broader group of patients with anxiety disorder. Second, the three-month duration of the study is too short. A more in-depth and detailed analysis should be carried out over a long period in the future. Third, such a therapy in the form of dance is destined to have a close relationship with physical therapy and music therapy, however in this experiment there is no conduct of composite analysis of the two therapies.

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Contribution of individual authors*:*

Aiyu Zhang: conception and design of the manuscript and interpretation of data, literature searches and analyses, clinical evaluations, manuscript preparation and writing the paper;

Ningning He: made substantial contributions to conception and design, literature searches and analyses, participated in revising the article and gave final approval of the version to be submitted.

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Correspondence:
Ningning He,
Faculty for Physical Education, Shanghai International Studies University,
Shanghai 201620, China,
E-mail: 13916335527@qq.com

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COMPREHENSIVE ANALYSIS OF ENGLISH LEARNING ANXIETY AND THE ACADEMIC SELF-EFFICACY AMONG COLLEGE STUDENTS

Qiongjing Zheng & Mei Zhou*

School of Liberal Education, Nanning University, Nanning 530200, China

SUMMARY

Introduction: *With the development of the social economy, the success of reform and opening up, and the acceleration of global integration, foreign languages and computer technology have become necessary skills for high-quality talents in the 21st century. While college students are learning and using English, it is more likely to cause anxiety than other subjects because of its particularity.*

Subjects and methods: *In this study, 38 college students from a university in Guangxi Province, China were selected as the research objects. SPSS27.0 was used for frequency analysis, correlation analysis, and independent sample t-test. We aim to study the relationship between academic self-efficacy and English learning anxiety and thus explore related influencing factors.*

Results: *Spearman's correlation coefficient between academic self-efficacy and English learning anxiety is -0.847, and there is a significant difference between students of different genders in academic self-efficacy ($t = -2.182$, $P < 0.05$). Male students have higher academic self-efficacy than female students. There was no statistical difference in English learning anxiety among different genders ($t = -2.009$, $P > 0.05$).*

Conclusions: *There is a negative correlation between academic self-efficacy and English learning anxiety. Individuals with higher academic self-efficacy would experience less English learning anxiety. And, there is a gender difference in academic self-efficacy among college students. Male students had higher academic self-efficacy than female students, and the difference is statistically significant. Also, there is a gender difference in English learning anxiety among college students. The anxiety index of females is lower than that of males, and the difference is not statistically significant.*

Key words: *English learning anxiety - college students - academic self-efficacy - education*

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INTRODUCTION

Anxiety belongs to the category of psychology and is a special representation of inner psychology. It is specifically manifested as that when an individual is unable to achieve the established goal and overcome the obstacles and threats encountered, the self-esteem or confidence would be damaged and this may lead to tension and fear (Schaefer et al. 2007). Proper anxiety can correct students' learning attitude to a certain extent, and make their thinking more active which plays an auxiliary role in English learning. However, with excessive anxiety, students may experience physiological phenomena such as sweaty palms, accelerated heartbeat, pulse, nervousness, etc. in the process of English learning. Further, they cannot accurately express the pronunciation and rhythm of the English language and even forget vocabularies, which severely inhibits the learning effect (Nunez-Pena & Bono 2019). The survey shows that 61% of students have no confidence in their spoken English, and they often feel anxious when they don't know how to express their ideas clearly in English. 43% of the students fear that they may make mistakes while speaking English in public and their self-esteem might get hurt. They dislike the oral English communication organized by teachers in class. The lack of self-confidence and the pressure caused by frustration in the learning process may lead to different degrees of learning anxiety (Wang & Liao 2012). In addition, an oppressive classroom atmosphere also harms students' English learning results. If the learning environment is tedious and the class is monotonous, students may experience great pressure. Under such pressure, their learning potential cannot be stimulated, and their interest in learning may be hit to a certain extent, leading to serious anxiety, thus reducing learning efficiency (Shangraw et al. 2021).

The concept of self-efficacy was proposed by Bandura, a famous American psychologist, in his book *Social Foundations of Thought and Action: A Social Cognitive Theory* in the 1970s. Bandura argues that in addition to the outcome expectation, there is also the efficacy expectation. Outcome expectation refers to the prediction that a certain behavior would lead to a certain result. If an individual predicts that a certain behavior would lead to a certain result, then this behavior may be activated and selected (Kim et al. 2019). Efficacy expectation refers to the prediction or judgment of an individual ability to carry out a certain behavior. This is a prediction of behavioral competencies. It indicates whether an individual is confident that he or she can successfully perform an action that leads to a certain outcome. When a man is confident that he or she is capable of performing an activity, he or she would have a high sense of self-efficacy to carry out that activity (Grenner et al. 2021). Developed from Bandura's self-efficacy theory, academic self-efficacy refers to the confidence and attitude of students towards their ability to achieve academic success, as well as their belief in completing academic tasks and successfully learning knowledge (Talsma et al. 2019).

Studies have shown that individual academic self-