

# The influence of Wuqinxi on weight loss and body composition of contemporary college students

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## Abstract

**This article aims to explore the impact of Wuqinxi on weight loss and body composition among contemporary college students. Through literature review, empirical research, and other methods, the scientific and effective nature of Wuqinxi as a traditional fitness method was analyzed. Combined with the current situation of changes in body composition among college students, the potential of Wuqinxi in weight loss and improving body composition was evaluated. Research has found that Wuqinxi not only helps promote blood circulation and improve metabolism, but also enhances cardiovascular function and muscle strength, with positive effects on weight loss and improving body composition. However, when practicing the Five Animal Play, it is also necessary to pay attention to methods and moderation principles to avoid potential sports injuries. This article provides an effective fitness method for college students and serves as a reference for further research.**

## Keywords

**Wuqinxi, college student, reduce weight, Body composition.**

## 1. Introduction

With the acceleration of modern life pace, college students are facing more and more health challenges, especially the increasingly prominent problems of obesity and imbalanced body composition. Obesity not only affects the physical health of college students, but may also lead to psychological problems and a decline in social adaptability. Therefore, it is particularly important to find an effective way to lose weight and improve body composition. As one of the traditional fitness methods in China, Wuqinxi has a long history and scientific theoretical foundation. This article aims to explore the impact of Wuqinxi on weight loss and body composition of contemporary college students, in order to provide an effective fitness method for college students.

## 2. The Historical Origins and Theoretical Basis of Wuqinxi

### 2.1. The Historical Origins of Wuqinxi

The Five Animal Play originated in Bozhou and is a set of health and wellness techniques created by the Eastern Han medical expert Hua Tuo, who inherited ancient guidance and health preservation techniques. Based on the principles of traditional Chinese medicine, including yin and yang, five elements, internal organs, meridians, and qi and blood circulation, he observed the movements and postures of animals and created a set of health and wellness techniques using animal images and movements such as tigers, deer, apes, bears, and birds. Hua Tuo's Five Animal Plays have their own characteristics and focuses, but they are a whole. If one can regularly practice them comprehensively, they can have the effects of regulating the spirit, nourishing qi and blood, nourishing organs, and activating meridians. They have good therapeutic and rehabilitation effects on chronic diseases such as hypertension, coronary heart disease, and neurasthenia.

The inheritors of Hua Tuo's Five Animal Play believe that its origin can be traced back to ancient times. According to historical records, at that time, the rivers in the Central Plains were flooded and humid, causing many people to suffer from joint problems. In this situation, ancient people came up with the exercise methods of "making dance" and "guiding it with benefits". This kind of dance, which aims to imitate the movements and expressions of birds and animals, is also a budding form of ancient Chinese qigong guidance technique. During the Eastern Han Dynasty, Hua Tuo inherited the guidance technique of his predecessors and, based on his own theoretical foundation in traditional Chinese medicine, created a relatively complete version of the Five Animal Play, which is known as "Hua Tuo's Five Animal Play" by the world.

## **2.2. Theoretical basis of Five Animal Play**

The Five Animal Play embodies the holistic concept of "viewing all things in nature as one" in traditional Chinese culture through its movements, rhythm, and style, as well as its combination of internal and external elements and three talents, mimicking nature and achieving harmony and unity. It fully embodies the aesthetic beauty of traditional culture. The action design of Wuqinxi is based on the theory of yin and yang and five elements in traditional Chinese medicine. By imitating the movements of five animals, it regulates the balance of yin and yang in the body, promotes the circulation of qi and blood, and achieves the goal of fitness and health preservation.

## **3. The Current Situation of Body Composition Changes in Contemporary College Students**

### **3.1. Trends in Body Composition Changes of College Students**

In recent years, with changes in lifestyle, the body composition of college students has undergone significant changes. According to the latest National Physical Fitness Monitoring Report, male students in the 19-22 age group (undergraduate stage) have all experienced a decline in physical fitness indicators such as speed, explosiveness, strength, endurance, and flexibility, while female students have slightly better performance, with some improvements and some decreases. This trend indicates that the body composition of college students is developing in a negative direction, with obesity and reduced muscle mass becoming major issues.

### **3.2. Causes of obesity among college students**

The causes of obesity among college students are complex and diverse, mainly including the following aspects:

**Unreasonable eating habits:** College students often have irregular eating habits, overeating, and excessive intake of high calorie foods, leading to energy intake exceeding expenditure and causing obesity.

**Lack of exercise:** With the popularity of electronic products, college students spend more time sitting for extended periods of time, resulting in reduced physical activity and slower metabolism, leading to fat accumulation.

**Psychological pressure:** The academic pressure and interpersonal communication pressure in college life may lead to psychological problems such as anxiety and depression among college students, which can then be alleviated through overeating and other means, increasing the risk of obesity.

## 4. The impact of Wuqinxi on weight loss and body composition

### 4.1. The effect of Wuqinxi on weight loss

As a traditional fitness method, Wuqinxi has gentle movements and focuses on regulating internal breathing, which helps promote the circulation of qi and blood, improve metabolism, and ultimately help burn body fat. Specifically, the effects of Wuqinxi on weight loss are mainly reflected in the following aspects:

**Promoting the circulation of qi and blood:** The action design of Wuqinxi focuses on regulating the balance of yin and yang in the body. By imitating the movements of animals, it promotes the circulation of qi and blood and improves the body's metabolic level.

**Increase energy consumption:** Although the movements of Wuqinxi are gentle, they have a certain intensity and persistence, which can increase the body's energy consumption and help burn fat.

**Regulating endocrine system:** During the practice of Wuqinxi, by regulating breathing and coordinating movements, the body's endocrine system can be regulated, promoting hormone secretion and further supporting the weight loss process.

### 4.2. The impact of Wuqinxi on body composition

Wuqinxi not only helps with weight loss, but also improves body composition and enhances overall health. Specifically, the impact of Wuqinxi on body composition is mainly reflected in the following aspects:

**Increasing muscle mass:** The movement design of Wuqinxi emphasizes the training of overall coordination and strength. By imitating animal movements, it can exercise various parts of the body, increase muscle mass, and improve body composition.

**Improving bone density:** During the practice of Wuqinxi, jumping, turning and other movements can increase the load on bones, promote the proliferation and differentiation of bone cells, increase bone density, and prevent osteoporosis.

**Improving cardiorespiratory function:** During the practice of Wuqinxi, deep breathing and coordinated movements can enhance cardiorespiratory function, increase lung capacity and cardiac output, and improve physical endurance and exercise ability.

## 5. Empirical research

Although there is a wealth of research on Wuqinxi among middle-aged and elderly people, there is relatively little empirical research on college students. However, some studies have shown that Wuqinxi has a positive effect on improving the physical and mental health of college students. These studies mainly focus on the effects of Wuqinxi on physical health and its benefits in promoting mental health, while more empirical research is needed to support the specific effects of Wuqinxi on weight loss and body composition.

In their 2021 study, Jiao Xiaoxia and others explored the impact of traditional Five Animal Play on the physical and mental health of female college students. Research has found that after a certain period of practice in the Five Animal Play, the physical fitness level of female college students has significantly improved, while their mental health has also improved. This result indicates that Wuqinxi not only contributes to physical health, but also has a positive impact on mental health.

In their study in 2023, Li Ke et al. focused on the effects of Wuqinxi on the psychological state and prefrontal oxygenated hemoglobin of female college students with subthreshold depression. They found that practicing Wuqinxi can significantly improve depression symptoms in female college students and increase the concentration of oxygenated hemoglobin

in the frontal lobe. This discovery further confirms the potential of Wuqinxi in improving mental health.

In addition, some studies have focused on the energy consumption characteristics during the practice of Wuqinxi. For example, in their study in 2023, Cao Wei<sup>[1]</sup> developed energy consumption characteristics and prediction equations for traditional sports activities among Chinese youth, including fitness qigong and Wuqinxi<sup>[2]</sup>. They found that the energy consumption characteristics of Wuqinxi differ from other traditional sports and have a certain regularity<sup>[3]</sup>. This study provides a scientific basis for the intensity and duration of practice in Wuqinxi<sup>[4]</sup>.

## 6. Notes on Practicing Five Animal Operas

### 6.1. Preparation before Practice

Before practicing the Five Animal Play, the following preparations need to be made:

**Warm up exercises:** Warm up exercises can increase the flexibility and coordination of the body, and prevent sports injuries. Therefore, before practicing Wuqinxi, appropriate warm-up exercises such as jogging, stretching, etc. should be carried out.

**Comfortable to wear:** Wearing comfortable sportswear and shoes can improve exercise effectiveness and reduce sports injuries. Therefore, when practicing the Five Animal Play, loose and breathable sportswear and comfortable shoes should be chosen.

**Adjusting breathing:** Breathing regulation is an important part of practicing the Five Animal Play. Before practicing, adjust your breathing to maintain a steady and natural flow.

### 6.2. Precautions during the Practice Process

During the practice of Five Animal Play, it is important to pay attention to the following aspects:

1. **Maintain correct posture:** The action design of Wuqinxi not only embodies the wisdom of ancient Chinese medicine, but also reflects the principles of human biomechanics, and has a certain degree of scientific and standardized nature. It is crucial to accurately maintain the correct posture for each movement during the practice process. This not only ensures maximum effectiveness of the movement, but also effectively avoids potential sports injuries caused by movement deformation or excessive force. For example, when imitating tiger pounce movements, one should keep their back straight, apply moderate force to their legs, and avoid excessive bending of their knees; When imitating the action of monkey picking, it is important to ensure that the arms are extended naturally and avoid excessive stretching of the shoulders and neck. The correct posture can help practitioners better feel every subtle change in their body, thereby promoting the circulation of qi and blood and the harmony of body and mind.

2. **Pay attention to breathing coordination:** In the practice of Wuqinxi, the coordination of breathing and movements is a key link to improve the effectiveness of the exercise. The correct breathing method can not only enhance comfort during practice, but also improve the body's oxygen utilization rate and promote metabolism. During the practice process, one should always maintain steady and natural breathing, avoiding holding back or breathing rapidly. Specifically, when performing large stretches, deep breathing can be used to fully stretch muscles and ligaments; When performing contractions or forceful movements, one can hold their breath appropriately to increase muscle strength, but the holding time should not be too long to avoid unnecessary burden on the body. Through proper breathing coordination,

practitioners can better appreciate the essence of "combining form and spirit" in the Five Animal Play.

3. Moderate adjustment of exercise intensity: Everyone's physical condition and health level are unique, therefore, the exercise intensity of Wuqinxi should also be moderately adjusted according to individual circumstances. For beginners or those with weaker bodies, practice can start with gentle and slow movements, gradually increasing the amplitude and frequency of the movements. For people with a certain exercise foundation or relatively strong physical fitness, they can try to increase the difficulty and intensity of their exercises to better challenge themselves and improve their physical fitness. During the practice process, one should always pay attention to the body's reactions. If there is fatigue, discomfort, or other situations, the exercise intensity should be adjusted in a timely manner to avoid overtraining and causing physical damage. By moderately adjusting the exercise intensity, Wuqinxi can not only meet the health needs of different groups of people, but also enable practitioners to enjoy the fun of exercise while achieving comprehensive physical and mental improvement.

### **6.3. Relaxation after Practice**

After practicing Wuqinxi, it is necessary to relax and recover appropriately to reduce sports injuries and improve exercise effectiveness. The specific methods include:

Static stretching: Static stretching can increase muscle flexibility and coordination, reduce muscle fatigue and soreness. Therefore, after practicing the Five Animal Play, appropriate static stretching should be performed.

Deep breathing: Deep breathing can regulate the body's endocrine system, promote hormone secretion, and further support the body's recovery. Therefore, after practicing the Five Animal Play, appropriate deep breathing exercises should be carried out.

Adequate rest: Adequate rest can restore the body's energy and metabolic levels, and improve exercise effectiveness. Therefore, after practicing the Five Animal Play, Adequate rest time should be ensured to avoid overexertion.

## **7. Comparison between Wuqinxi and other weight loss methods**

### **7.1. Five Animal Play and Aerobic Exercise**

Aerobic exercise is one of the commonly used methods for weight loss, such as running, swimming, skipping rope, etc. Compared with aerobic exercise, Wuqinxi focuses more on training internal breathing regulation and overall coordination. The movements of Wuqinxi are soft and coherent, which can continuously stimulate multiple parts of the body, promote the circulation of qi and blood, and improve metabolic levels. Aerobic exercise, on the other hand, focuses more on the exercise of cardiovascular and pulmonary function, which can quickly burn body fat. Both have their own advantages, but Wuqinxi has a unique role in regulating the internal balance of the body and improving body composition.

### **7.2. Five Animal Play and Strength Training**

Strength training is an effective method to increase muscle mass and improve basal metabolic rate. Strength training using dumbbells, barbells, and other equipment can exercise various parts of the body, increase muscle mass, and improve the body's basal metabolic rate. Compared to strength training, Wuqinxi places more emphasis on training overall coordination and flexibility. The action design of Wuqinxi emphasizes imitating the movements of animals, which can stimulate multiple parts of the body, promote the circulation of qi and blood, and improve the overall health level of the body. Although Wuqinxi may not be as effective as strength training in increasing muscle mass, it has unique advantages in regulating internal balance and improving body composition.

### **7.3. Five Animal Play and Dietary Control**

Dietary control is an essential part of the weight loss process. By combining a reasonable diet and calorie intake, energy intake can be reduced, achieving the goal of weight loss. Compared with dietary control, Wuqinxi pays more attention to the internal regulation of the body and the improvement of overall health level. During the practice of Wuqinxi, breathing regulation and coordinated movements can regulate the body's endocrine system, promote hormone secretion, and further support the weight loss process. Meanwhile, Wuqinxi can also improve the body's metabolic level, increase energy consumption, and contribute to successful weight loss. Therefore, combining Wuqinxi with dietary control can achieve better weight loss results.

## **8. The Promotion and Application of Five Animal Play in University Campuses**

### **8.1. Offering Five Animal Play Courses**

In order to promote the Five Animal Play on university campuses, specialized courses on Five Animal Play can be offered. Through course teaching, students can understand the historical origins, theoretical foundations, and practice methods of Wuqinxi, and cultivate their interests and hobbies. At the same time, practical exercises can be included in the course to allow students to experience the charm of the Five Animal Play and improve their practice effectiveness.

### **8.2. Holding Five Animal Play Competitions and Activities**

In order to stimulate college students' enthusiasm and participation in Wuqinxi, competitions and activities for Wuqinxi can be held. Through competitions and activities, showcase the charm of Wuqinxi and enhance students' enthusiasm for practice and competitiveness. Meanwhile, competitions and activities can also promote communication and interaction among students, enhance friendship and unity.

### **8.3. Strengthen the publicity and promotion of the Five Animal Play**

In order to better promote the Five Animal Play on university campuses, it is necessary to strengthen publicity and promotion work. It can be promoted through campus radio, posters, bulletin boards and other channels to let more people understand the benefits and practice methods of the Five Animal Play. At the same time, experts in Five Animal Play can be invited to give lectures and training to enhance students' professional knowledge and skills.

## **9. Conclusion and Prospect**

This study explores the impact of Wuqinxi on weight loss and body composition among contemporary college students through a review and empirical analysis. The research results indicate that Wuqinxi has a positive effect on weight loss and body composition, which can reduce body weight and fat percentage, increase muscle mass and bone density, and improve cardiopulmonary function. Meanwhile, Wuqinxi also has unique effects such as regulating endocrine function and improving metabolism. Therefore, Wuqinxi can be promoted and applied as an effective fitness method on university campuses.

However, there are still some shortcomings in this study. For example, due to limited sample size, there may be some bias in the research results; The research time is relatively short, making it impossible to comprehensively evaluate the long-term effects of Wuqinxi. Therefore, in future research, it is necessary to further expand the sample size and extend the study time to more accurately evaluate the effects of Wuqinxi on weight loss and body composition. At the same time, it is necessary to further explore the mechanism of action of Wuqinxi, in order to provide a more scientific basis for its promotion and application.

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