



# A Study on the Impact of Teaching Methods on College Students' Physical Exercise Behavior

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## I. Introduction

### 1.1 Research Background

As an important component of society, college students increasingly face a wide range of demands related to physical health, mental development, and social adaptation. With the rapid pace of modern life, the pressures on college students are intensifying, including the challenges of academic workload, time management, and a lack of adequate motivation or incentives for physical activity (Osipov et al., 2021). Despite the growing awareness of the importance of regular physical exercise, many students still fall short of recommended physical activity levels (LI, 2014).

Studies have found that the participation rate in physical exercise among college students is generally low. This is particularly evident in extracurricular physical activities, where many students do not meet the recommended standard of at least 150 minutes of moderate-intensity aerobic exercise per week (Howlett et al., 2019). Such inactivity can lead to a deterioration in physical fitness, resulting in a range of health problems, both physical and psychological. Inadequate physical exercise is linked to an increased risk of cardiovascular disease, obesity, and musculoskeletal problems, as well as mental health issues like anxiety and depression (Strohacker et al., 2014). These challenges are compounded by the academic pressures faced by students, which often lead them to prioritize studies over physical exercise, further exacerbating the problem.

The negative consequences of insufficient physical exercise on college students' overall well-being call for an urgent need to explore ways to enhance their physical activity levels. The role of physical education (PE) teachers in this process is critical, as they not only guide students through structured physical activities but also serve as role models for healthy behaviors. However, research suggests that despite the presence of PE programs,

the design and implementation of teaching methods often fail to fully engage students or meet their diverse needs (Jiménez-Parra et al., 2022).

### 1.2 Research Significance

The quality of physical education directly impacts college students' physical exercise behaviors. It is essential to understand the effectiveness of teaching methods in influencing students' engagement in physical exercise. A teacher's approach to instruction can either encourage or hinder a student's willingness to participate in physical activities. Therefore, identifying which teaching methods are most effective in fostering consistent and meaningful participation in physical exercise is of great importance. Effective teaching methods can help to ignite students' interest in physical activities, increase their motivation, and improve the sustainability of their exercise routines.

In the context of modern education, the role of physical education extends beyond merely improving physical fitness. It is also a means of promoting overall well-being, including mental and emotional health. Teachers are tasked with the responsibility of not only conveying knowledge about physical activities but also creating an environment that nurtures students' enthusiasm and long-term commitment to exercise. Hence, exploring how teaching methods can enhance students' physical exercise behaviors and contribute to their holistic development is an important area of research.

### 1.3 Research Questions

This study aims to investigate how different teaching methods employed by physical education instructors influence college students' physical exercise behaviors. The study will analyze the impact of these methods on various aspects of students' exercise habits, including participation, exercise continuity, and effectiveness. Specifically, the following research questions will guide the study:



### **Which teaching methods are most effective in improving college students' participation in physical exercise?**

This question seeks to identify teaching strategies that can help increase students' initial participation in physical exercise and sustain their engagement over time. The research will focus on whether traditional, modern, or innovative teaching methods yield better outcomes in terms of student participation.

### **How do different teaching methods promote students' physical and mental health?**

It is crucial to understand the broader impact of teaching methods on students' physical health, mental well-being, and overall quality of life. The research will explore whether certain instructional strategies not only encourage more physical activity but also contribute to the mental and emotional benefits associated with exercise, such as reduced stress and improved mood.

### **How can physical education classes be designed to stimulate student interest and enthusiasm for physical exercise?**

Given the diverse motivations and interests of students, designing classes that are engaging and enjoyable is essential for long-term participation. This question will explore ways to incorporate diverse teaching methods, such as interactive, gamified, or technology-enhanced learning experiences, to capture students' attention and foster a sense of excitement and commitment toward exercise.

By addressing these questions, this study aims to provide a theoretical framework and practical recommendations for enhancing physical exercise behaviors among college students. The findings will offer valuable insights into how teachers can adapt their methods to improve student engagement and contribute to the development of a lifelong commitment to physical activity.

### **1.4 Research Objectives**

The main objectives of this research are to:

Evaluate the effectiveness of different teaching methods on the frequency and consistency of college students' physical exercise.

Examine how teacher-student interactions, lesson structure, and teaching resources influence students' attitudes toward exercise.

Identify the key factors that motivate students to remain active and develop lasting exercise habits.

Provide recommendations for educators on how to design and implement effective physical education curricula that are both educational and enjoyable, ensuring that students of varying interests and fitness levels can engage in regular physical activity.

### **1.5 Importance of the Study**

This research holds significant practical value as it directly addresses the challenges that many college students face in maintaining an active lifestyle. By identifying the most effective teaching methods for promoting physical exercise, this study could inform the development of more engaging and impactful physical education programs across universities. Furthermore, it could provide insights into how universities can integrate physical activity into students' daily routines in a way that is both convenient and enjoyable. Ultimately, fostering a culture of physical activity within the university setting could have long-term benefits, not only for individual students but also for society, by promoting healthier, more active lifestyles among future generations.

## **II. Classification and Characteristics of Teaching Methods**

To begin, different teaching methods need to be categorized and analyzed. Based on teaching forms and objectives, teaching methods can generally be divided into the following types:

### **2.1 Lecture Method**

**Characteristics:** The lecture method is a traditional teaching approach in which the instructor imparts knowledge to students through verbal explanation. This method is suitable for transmitting theoretical knowledge and can cover a large amount of content in a short time.

**Advantages:** High efficiency in information delivery, easy for instructors to control the pace and content of the class, and ideal for large-group teaching.

**Disadvantages:** Poor interaction, low student engagement, and may lead to distracted attention. In physical education, this method struggles to stimulate students' interest in movement and practical skill development.

### **2.2 Demonstration Method**

**Characteristics:** The instructor demonstrates actions or skills for students to observe and imitate. This method emphasizes visual and kinesthetic learning,



making it particularly effective for teaching physical skills.

Advantages: Intuitive and clear, helping students to understand and master movements more easily, which improves their physical skills and posture.

Disadvantages: For complex movements or techniques requiring fine motor skills, simple demonstration may be insufficient, and students need repeated practice and individual guidance.

### **2.3 Participation Method**

Characteristics: The instructor organizes students to participate in physical activities, such as competitions, games, and drills, to achieve teaching objectives. This method emphasizes "learning by doing," allowing students to acquire skills and knowledge through practice.

Advantages: Highly interactive, stimulating students' interest and participation, while helping to cultivate teamwork and competitive spirit.

Disadvantages: Requires ample space and equipment resources, and instructors may find it difficult to address individual differences, particularly in large classes, which could pose safety risks.

### **2.4 Group Discussion Method**

Characteristics: The instructor divides students into small groups to discuss and exchange ideas on specific physical education topics or issues. This method emphasizes autonomous and collaborative learning.

Advantages: Encourages the exchange of ideas, enhances team cooperation, and improves students' ability to learn independently and solve problems.

Disadvantages: Requires strong organizational and guiding skills from the instructor. The depth and quality of the discussion may be inconsistent, and the conversation can easily drift from the topic.

### **2.5 Situational Teaching Method**

Characteristics: This method creates specific situations or simulates real-life sporting environments, enabling students to learn and exercise in context. It emphasizes situational experience and emotional involvement.

Advantages: Practical, engaging, and enhances the learning experience, helping to develop students' adaptability and practical skills.

Disadvantages: Creating these situations requires significant preparation and resources, and the method demands high levels of professional knowledge and creativity from instructors.

## **III. The Impact of Different Teaching Methods on College Students' Physical Exercise Behaviors**

### **3.1 Improving Exercise Participation Rate**

Research shows that teaching methods that are interactive and engaging, such as participatory methods and situational teaching, can significantly increase students' participation in physical exercise (Barcelona et al., 2022). These teaching strategies can stimulate students' interest in physical activity by making the learning process more enjoyable and less intimidating. Participatory methods encourage active involvement, where students become part of the teaching process, allowing them to engage in activities rather than just being passive receivers of information. For example, students may be asked to lead warm-up exercises, suggest variations of a game, or participate in team-building activities.

Situational teaching, on the other hand, involves creating real-life scenarios in which students must apply what they learn in practice. This method helps students see the relevance of physical activity to their daily lives, making them more likely to incorporate exercise into their routines. The increased engagement resulting from these methods helps boost students' physical activity levels, increasing both the frequency and duration of their exercise.

Furthermore, integrating technology into physical education through gamified learning platforms or fitness tracking apps can further enhance engagement. Using digital tools can gamify exercise routines, introduce competition, and provide instant feedback, all of which contribute to higher levels of student participation.

### **3.2 Promoting Exercise Sustainability**

Effective teaching methods not only boost initial participation but also promote the sustainability of exercise habits. Personalized teaching methods and flipped classrooms are examples of strategies that help students maintain consistent exercise routines. Through personalized teaching, instructors can provide tailored exercise plans that cater to each student's unique fitness level, goals, and preferences. This individualized attention increases students' sense of ownership and accountability for their exercise habits (Zhou, 2023).

The flipped classroom model also encourages students to take more responsibility for their learning. In this approach, students engage with learning materials (such as exercise techniques and principles) outside of class, allowing class time to be used for



active learning and practice. By focusing on skill development during class sessions, students are more likely to continue their physical activity outside of the classroom, reinforcing the habit of regular exercise. Additionally, incorporating goal setting and feedback mechanisms into the teaching process can help students track their progress and stay motivated to keep exercising.

Personalized teaching also fosters a deeper understanding of exercise techniques, allowing students to choose the most suitable forms of physical activity for their bodies. When students feel that their fitness program is specifically designed for them, they are more likely to continue exercising over the long term, which leads to better health outcomes.

### **3.3 Improving Exercise Effectiveness**

While traditional lecture-based teaching may lack interactivity, it still plays an important role in educating students about the theoretical aspects of physical exercise. The delivery of scientific knowledge about exercise principles—such as proper warm-up, muscle recovery, and injury prevention—helps students understand the importance of correct exercise techniques. By combining theory with practice, students can gain a more comprehensive understanding of how to exercise safely and effectively, which enhances the overall quality of their workout.

Theoretical knowledge is particularly important in preventing exercise-related injuries. Many students may not be aware of the risks associated with improper exercise techniques, which can lead to injury and undermine their physical activity goals. Teaching students the science behind muscle function, cardiovascular health, and endurance can also increase their motivation to maintain proper exercise routines, as they understand the health benefits they are reaping.

Moreover, teaching students the principles of progressive overload and recovery will help them maximize the effectiveness of their workouts and avoid the plateau effect, where they stop seeing progress after a certain period.

### **3.4 Cultivating Students' Autonomy and Self-Management Skills**

Modern teaching methods, particularly flipped classrooms and personalized teaching, help develop students' autonomy and self-management skills. These approaches encourage students to take charge of their own learning and exercise routines. For instance, students can access instructional videos, participate in online discussions, or use fitness apps

to gain knowledge and track their progress outside of class. This method allows students to learn at their own pace and develop the skills necessary to make informed decisions about their physical activity.

In-class time can then be dedicated to applying the knowledge gained outside of class, such as practicing specific exercises, improving form, or engaging in interactive group activities. By developing these independent learning skills, students become more self-reliant in managing their exercise routines, which contributes to long-term adherence to physical activity.

Furthermore, students who practice self-regulation techniques—such as goal-setting, time management, and self-reflection—are better equipped to maintain consistent physical exercise habits. The ability to set personal goals, monitor progress, and adapt to challenges fosters a sense of achievement and motivation, reinforcing the habit of regular physical activity.

### **3.5 Enhancing Mental Health and Social Adaptability**

Physical activity has a profound impact not only on students' physical health but also on their mental well-being. Interactive teaching methods and team-based sports can help improve students' communication, cooperation, and social skills. Participating in group activities fosters a sense of belonging and reduces feelings of isolation, which is particularly important for students who may struggle with social connections or have low self-esteem.

Studies have shown that physical exercise can significantly reduce anxiety, depression, and stress among college students (Larson et al., 2021). Exercise stimulates the release of endorphins, which help improve mood and reduce feelings of tension. Team sports and interactive teaching methods are particularly effective in fostering a positive social environment. By encouraging collaboration and teamwork, these teaching strategies enhance students' social support networks, further reducing stress and promoting emotional well-being.

Additionally, through sports and physical activities, students learn valuable life skills, such as leadership, time management, and perseverance, which contribute to their overall adaptability in social and professional settings. Teachers who integrate these elements into their physical education programs can help students develop the psychological





resilience necessary to thrive in both academic and personal aspects of life.

#### IV. Factors Influencing the Effectiveness of Teaching Methods

##### 4.1. Teachers' Professional Qualities and Attitudes

The effectiveness of teaching methods is closely linked to the teacher's qualifications, experience, and attitude toward students. A teacher's professional knowledge and teaching experience can significantly enhance the quality of instruction and its ability to engage students in physical activity. A teacher who is well-versed in exercise science and pedagogy is more likely to design effective lesson plans that align with students' needs and learning styles.

Equally important is the teacher's ability to create a positive and supportive classroom environment. Teachers who demonstrate genuine concern for their student's well-being and progress are more likely to foster a culture of trust and motivation. The teacher's ability to adapt teaching methods to suit the diverse learning styles of students—whether they are kinesthetic learners or visual learners—can greatly influence the success of physical education programs.

Moreover, teachers who maintain a positive attitude, offer encouragement, and provide constructive feedback are more likely to inspire students to adopt and sustain healthy exercise habits.

##### 4.2 Individual Differences Among Students

Students' individual differences, such as their interests, athletic abilities, and motivation levels, also play a crucial role in the effectiveness of teaching methods. Some students may have a strong foundation in sports and physical fitness, while others may lack basic skills or experience. Teachers need to be flexible and adaptable, using a range of teaching methods to accommodate students' varied needs.

Personalized teaching methods, such as one-on-one coaching, are particularly effective for students who require additional support. For students with lower levels of physical fitness, providing guidance on basic skills, offering positive reinforcement, and progressively increasing exercise intensity can help build confidence and ensure long-term engagement.

Additionally, motivation plays a significant role in how students respond to different teaching methods. Intrinsic motivation, such as the enjoyment of physical activity, can be enhanced through

engaging and relevant lesson plans. Teachers who connect physical exercise to students' personal goals or interests—whether it's improving performance in a favorite sport or enhancing overall well-being—are likely to see greater success in promoting sustained participation.

##### 4.3 Sports Facilities and Environmental Factors

The availability and quality of sports facilities play a critical role in the effectiveness of physical education programs. Well-equipped gyms, playing fields, and other sports facilities provide the necessary environment for students to practice and improve their physical skills. Inadequate or poorly maintained facilities, on the other hand, can limit the range of activities available and reduce student engagement.

In addition to physical resources, the broader campus culture and institutional support for physical education also influence the success of teaching methods. Universities that prioritize sports and physical activity, and that provide adequate funding for extracurricular programs, are more likely to see higher levels of student participation in physical education. Conversely, if the campus culture does not value physical fitness or if resources are limited, teachers may struggle to implement effective teaching strategies.

Finally, the broader social and cultural context also influences the success of physical education methods. For example, if students come from communities where physical activity is not a common part of daily life, they may be less inclined to engage in sports. Teachers must be aware of these cultural factors and adjust their teaching methods accordingly.

#### V. Domestic and International Research Status and Shortcomings

##### 5.1 Domestic Research Status

In China, there has been a considerable accumulation of research on the impact of teaching methods on college students' physical exercise behaviors, covering a broad range of areas. Many studies indicate that teaching methods directly promote students' participation in physical activities (Sanjar & Doston, 2022). For instance, interactive teaching, cooperative learning, and situational teaching methods have been found to increase students' involvement and motivation in physical exercise. Additionally, the rise of gamified teaching and flipped classrooms has brought new perspectives and practices to improve college



students' physical activity behaviors (Van Cauwenberghe et al., 2013). However, despite the growing number of studies, there are still some limitations:

**Single Research Perspective and Lack of Comprehensive Analysis:** Many studies focus on the exploration of individual teaching methods, neglecting a comprehensive analysis of the combined effects of different teaching strategies (Shu, 2018). Particularly, there is a lack of cross-cultural comparison and integrated research on the applicability of teaching methods across different subjects and cultural contexts.

**Lack of Longitudinal Studies:** Most studies adopt cross-sectional designs, mainly focusing on the short-term impact of teaching methods on students' physical exercise behaviors. They fail to delve into the sustained effects of teaching methods on long-term behavioral changes.

**Sample Size and Regional Distribution Issues:** Many studies have small sample sizes, and their regional distribution is uneven, which affects the generalizability of the conclusions (Wang, 2018). This limits the ability to apply the research findings across the entire country. Moreover, some regions have less developed physical education systems in higher education, which may impact the representativeness of the research outcomes.

**Insufficient Application of Teaching Methods:** Although methods like interactive teaching and flipped classrooms have garnered attention and application by some educators, the inertia of traditional teaching methods means that many universities still adopt outdated teaching strategies. Consequently, the potential advantages of emerging teaching methods are not fully realized.

## 5.2 International Research Status

Internationally, research on the impact of teaching methods on students' physical exercise behaviors has made significant progress, especially in the innovation and effectiveness of teaching strategies (Ruzimbaevich & Ruzimbaev, 2021). However, there are several common issues in this body of research:

**Fragmented Research Focus:** While studies cover various teaching methods, the research tends to be scattered, lacking a comparative and systematic analysis (Gharib et al., 2015). The strengths and weaknesses of different teaching methods, their

implementation effects, and long-term impacts are often the focus of individual studies, but integrated, holistic research is relatively scarce.

**Excessive Focus on Short-Term Effects:** Most studies concentrate on the short-term impact of teaching methods on students' exercise behaviors. There is little attention paid to the long-term effects of these methods on students' exercise habits, psychological changes, and overall health. As a result, the findings often fail to provide sufficient long-term guidance for educational practices.

**Scarcity of Cross-Cultural Comparisons:** While some international research has examined the effectiveness of teaching methods in different countries and regions, there is still a lack of cross-cultural comparative studies. The adaptability and effectiveness of teaching methods may vary significantly across different cultural contexts, but this issue has not been sufficiently addressed in current research.

**Monolithic Research Methods:** Many international studies rely heavily on surveys, experimental designs, and similar methods, which, while effective at capturing short-term effects, fail to provide a comprehensive view of the practical application and long-term impacts of teaching methods (Osipov et al., 2021). There has been insufficient emphasis on using diverse research methods over extended periods.

## VI. Conclusion and Recommendations

### 6.1 Conclusion

The teaching methods used by educators significantly impact college students' physical exercise behaviors. Modern teaching methods, such as interactive teaching, gamified teaching, and flipped classrooms, can effectively increase students' participation, sustainability, and overall outcomes in physical exercise. These methods not only contribute to students' physical health but also enhance their mental well-being and social skills development. Traditional teaching methods still hold certain advantages, particularly in teaching basic skills, but due to their lack of interactivity and personalization, they often fail to maintain students' long-term interest.

### 6.2 Practical Recommendations

**Diversified Teaching Methods:** Higher education institutions should adapt to students' interests and needs by flexibly incorporating various teaching methods such as interactive teaching, gamification, flipped classrooms, and personalized



instruction. This will help avoid reliance on a single mode of teaching.

**Ongoing Improvement of Teaching Methods:** Educators should continuously adjust and refine their teaching methods based on student feedback, incorporating modern educational technologies and tools like mobile apps, online courses, and social media platforms to boost student engagement and motivation.

**Encouraging Student Self-Exercise:** Teachers should actively guide students to develop self-directed exercise habits, providing personalized exercise plans and ongoing tracking to strengthen students' self-management and self-motivation skills.

**Implementing Long-Term Longitudinal Studies:** Educational research institutions should prioritize studies on the long-term effects and deep impact of teaching methods, particularly regarding how teaching methods influence students' long-term physical exercise behaviors, health management, and social adaptability, thereby providing more comprehensive theoretical support.

By improving and refining teaching methods, we can further enhance college students' physical exercise behaviors and promote their overall development, both physically and mentally.

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