

A Study on the Impact of Fitness App Usage on College Students' Satisfaction and Persistence in After-School Physical Exercise

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ABSTRACT

Currently, college students often face the problems of "lack of data feedback, professional guidance, and emotional support" in their after-school physical exercise, leading to low exercise satisfaction and poor persistence. Fitness apps, with functions such as data recording, course guidance, and social interaction, have become an important tool to improve this situation. Combining the actual scenarios of college students' after-school exercise, this paper first sorts out the application status of fitness apps among college students, then deeply analyzes how these apps enhance satisfaction by addressing exercise pain points and strengthen persistence by building incentive mechanisms, and finally puts forward targeted optimization suggestions. It aims to provide references for college students to use apps for after-school exercise and develop long-term exercise habits.

KEYWORDS

Fitness apps; College students; After-school physical exercise; Satisfaction; Persistence

1 Introduction

On Deepening Educational Reform and Promoting Quality-Oriented Education in an All-Round Way specifically points out that a healthy physique is the basic prerequisite for students to serve the motherland and the people, and an embodiment of the vigorous vitality of the Chinese nation. To meet this development requirement, a large number of schools are committed to cultivating students' strong physiques, and adopt various physical exercise models to establish the guiding ideology of "Health First" and "Physical Fitness First", laying a foundation for effectively strengthening the physical education work for Chinese students.

2 Application status of fitness apps in college students' after-school physical exercise

2.1 Usage coverage and motivations

College students have a high level of awareness of fitness apps, and most of them come into contact with such apps through classmates' recommendations, social media sharing, or app stores. According to observations, more than half of college students have at least one fitness app installed on their mobile phones, and their usage motivations are closely aligned with the pain points of after-school exercise:

Nearly 40% use apps to record exercise data, hoping to clearly track metrics like running distance and calories burned, so as to avoid the feeling of "exercising in vain";

Around 35% use apps to access professional courses—especially beginners, who need easy-to-follow tutorials such as dormitory stretching and interval running on the playground;

25% use apps due to social check-in needs, as they want to exercise in teams with friends and encourage each other, thereby reducing the sense of loneliness during exercise.

2.2 Frequently used features

When choosing app features, college students prioritize practicality, focusing on those that can directly solve exercise-related problems:

Data recording function: During exercise, they record metrics like duration, distance, and pace; after exercise, they review historical data to compare their progress (e.g., "reducing the time to run 1 kilometer from 8 minutes to 7 and a half minutes"). Such intuitive changes bring a strong sense of accomplishment.

Scenario-based courses: Courses such as "10-minute break exercises" and "dormitory workouts without equipment" are the most popular. Since they do not require professional venues or equipment, they fit perfectly into campus life scenarios.

Light social functions: Most students obtain emotional support through friend check-ins and simple "cheer" interactions, while also achieving self-supervision. They do not spend excessive time on complex social interactions within the app.

3 The impact of fitness apps on college students' satisfaction with after-school physical exercise

3.1 Data visualization makes "results visible", enhancing outcome satisfaction

In traditional exercise, students mostly rely on "feeling" to judge the effect, and the vague perception of "whether there is progress" easily reduces their satisfaction. The "data visualization" function of fitness apps can transform abstract effects into specific numbers and charts: after running, it displays the running track, pace, and calories burned; after persisting for a week, it also generates a weekly report, intuitively showing progress such as "total distance increased by 5 kilometers and average pace accelerated by 30 seconds". Such clear results eliminate the need for students to "guess the effect". Some students feedback: "After looking at the monthly report, I feel that I didn't exercise in vain this month, and my exercise satisfaction immediately improves."

3.2 Scenario-based courses make "exercise less troublesome", enhancing process satisfaction

College students often feel troubled by "no equipment in the dormitory" or "not knowing how to control the intensity on the playground" during after-school exercise; some even get injured due to incorrect movements, which affects their exercise experience. The "scenario-based courses" of fitness apps accurately solve this problem:

For dormitories, it launches equipment-free courses such as "bedside stretching" and "seated core training";

For playgrounds, it designs "beginner running plans" to guide pace and breathing;

For fragmented time, it sets up "5-minute relaxation exercises" suitable for breaks or after evening self-study.

Students do not need to figure out the exercises by themselves—they can just follow the courses. Some students say: "I used to be reluctant to exercise because it was too troublesome, but now I can finish a course in 10 minutes, and my favorable impression of exercise has increased a lot."

3.3 Light social interaction makes "exercise less lonely", enhancing emotional satisfaction

The sense of loneliness during solo exercise is one of the reasons why students are reluctant to engage in after-school exercise. Without someone to share feelings with or lack of encouragement, exercise easily becomes boring. The "light social function" of fitness apps builds a simple interactive platform:

By joining class check-in groups, students can receive likes and comments from classmates after checking in their exercise;

Teaming up with friends allows them to set small goals such as "exercising 3 times a week together", and they remind each other if they fail to complete the goal.

This kind of interaction not only relieves the sense of loneliness but also helps students gain emotional support. Some students mention: "Seeing my classmates' 'cheers' makes me feel a sense of belonging in exercise, and I like after-school exercise even more."

4 The impact of fitness apps on college students' persistence in after-school physical exercise

4.1 Step-by-step goals give "direction to exercise", reducing blind abandonment

Due to the lack of clear goals, college students often fall into a random pattern of "exercising only when they think of it and stopping when they don't" during after-school exercise, making it easy for them to give up. The goal-setting function of fitness apps can transform the vague desire of "wanting to exercise" into specific goals and break them down into achievable small steps:

If the goal is "exercising 3 times a week", the app will plan "30 minutes of exercise on Monday, Wednesday, and Friday";

If the goal is "losing 2.5 kilograms" (equivalent to 5 jin), it will be broken down into "losing 0.5 kilograms per month, exercising 4 times a week, and burning 300 calories each time".

After completing small goals, the app also issues rewards such as "Self-Discipline Star" badges. This goal-oriented and feedback-driven setup helps students clearly know "what to do next", preventing them from giving up due to aimlessness. As one student put it: "I used to slack off easily because I had no exercise goals, but now I feel a sense of accomplishment after finishing small goals, and gradually I've stuck to it."

4.2 Two-way supervision imposes "constraints on exercise", reducing interruption due to laziness

When exercising alone, students tend to interrupt their workouts due to laziness, such as thinking "I'm tired today, I'll exercise tomorrow". The supervision function of fitness apps establishes a dual constraint system of "self-supervision + others' supervision":

On one hand, the app records daily exercise status. If a student fails to exercise, it will display "Not checked in today"—this visual reminder helps students promptly realize "I didn't exercise today", serving as a form of self-supervision;

On the other hand, through "friend supervision" and "group check-in", students form implicit constraints with others. For example, if they team up with roommates for check-ins, the other person will take the initiative to ask "Why didn't you exercise today?" if one fails to complete the task.

This dual constraint effectively reduces laziness. A student feedback: "In the past, no one supervised me, so I often made excuses to skip exercise. But now I'm afraid of holding others back, so I rarely interrupt my workouts anymore."

4.3 Achievement accumulation boosts "confidence in exercise", strengthening long-term persistence

If students cannot see progress during exercise, they are likely to lose confidence and give up. The achievement accumulation function of fitness apps stores exercise data for a long time, allowing students to see their growth at any time:

Opening the app, they can see records like "Last year, it took me 9 minutes to run 1 kilometer; now it only takes 7 minutes" or "My cumulative running distance has reached 500 kilometers";

If they follow courses, they can also check progress such as "Completed 20 yoga classes and improved flexibility".

These concrete achievements help students clearly perceive their progress, significantly enhancing their confidence in exercise. As one student mentioned: "Every time I don't feel like exercising, I look through the historical data in the app. Seeing that I've gone from being unable to run to being able to run 5 kilometers, I feel I can't give up—and slowly, I've developed the habit of persistent exercise."

5 Strategies for optimizing fitness apps to promote the effectiveness of college students' after-school exercise

5.1 Improve data accuracy and functional practicality

Data accuracy is the core of students' trust in fitness apps—many college students have complained that "obviously ran 3 kilometers, but the app showed 3.5 kilometers" or "pace jumped from 6 minutes/km to 8 minutes/km for no reason," which directly dampens their exercise enthusiasm. To solve this, developers can optimize the combined GPS and sensor system by adding campus-specific positioning aids: for example, cooperate with colleges to map key locations like teaching buildings, playground tracks, and dormitory roads into the app's positioning database, and set up micro base stations at track turning points or building corners. This way, when students run around the campus, the app can correct positioning deviations in real time, reducing the error of distance and pace records to within 5 meters and 10 seconds respectively.

In terms of functional practicality, it's essential to "cut the clutter" for college students who are often in a hurry between classes. First, simplify the interface: when the app is opened, the default page should be "Today's Exercise Goal" (e.g., "2 kilometers left to complete the weekly task") with core functions like "Start Running," "Course Practice," and "Exercise History" placed in the bottom navigation bar—use bright orange or green for buttons so they're easy to spot at a glance. For example, the "Start Running" button can be designed as a circular icon with a running figure, avoiding the need for students to click through 2-3 layers of menus to start exercising.

Ad push also needs to be "student-friendly." Instead of popping up ads when students are about to start running or mid-exercise (which is extremely annoying), schedule pushes for 10-15 minutes after exercise—when students are resting and checking their exercise data. The ads should also be related to their needs: for example, push reminders for "replenish electrolytes with coconut water" (instead of irrelevant skincare products) or short videos of "5-minute post-run leg stretching" (instead of online shopping links), turning ads into practical tips rather than distractions.

5.2 Develop more campus-scenario-based courses

College students' after-school exercise scenarios are highly fixed—mostly dormitories (small space, no equipment), playgrounds (open area, group activities), and fragmented time (10 minutes between classes, 20 minutes before self-study)—so courses must be tailored to these scenarios, with no professional equipment required.

For dormitory scenarios: Design "space-saving, quiet" courses. For example, "10-Minute Pre-Sleep Relaxation Exercise" can be done while sitting or lying on the bed—include movements like "knee-to-chest stretch" (lie flat, hug knees to chest to relax the lower back), "neck side stretch" (sit up straight, tilt head to the shoulder to soothe stiff neck from studying), and "abdominal breathing" (inhale for 4 seconds, hold for 2 seconds, exhale for 6 seconds) to help students fall asleep faster. Another option is "Desk-Side Stretching During Homework Breaks": teach students to stretch their arms

overhead (interlock fingers, stretch upward to relax the back) or step on the edge of a chair to stretch their calves—all done without leaving the desk, perfect for when they're tired from writing papers.

For playground scenarios: Focus on "group fun" to fit students' preference for exercising with classmates. For example, "Three-Legged Race Tutorial" not only teaches how to tie legs (use a soft cloth belt instead of a rope to avoid scratching) but also includes rhythm training—like "count 1-2-1 together, step with the tied leg first"—so that pairs can coordinate better. "Relay Race with Small Games" adds fun elements: after passing the baton, the next runner has to do 3 jumping jacks before starting, making the activity less like a competition and more like a game. These courses can be directly used for class group activities or club outings.

For fragmented time: Launch "short, efficient" mini-courses. For example, "3-Minute Quick Warm-Up Before Morning Run" includes high knees, arm circles, and ankle rotations—students can do it in the dormitory hallway before heading to the playground. "5-Minute Cervical Spine Relaxation" is designed for students who spend hours on their phones: it uses simple movements like "slowly turning the head left and right" and "nodding up and down" (with a reminder to "keep the shoulders relaxed"), and is paired with light guitar music so students can follow along easily between classes.

6 Conclusion

By aligning with college students' needs for after-school exercise, fitness apps provide an effective solution to addressing the challenges of college students' after-school exercise, primarily through two aspects: enhancing satisfaction and strengthening persistence.

In terms of satisfaction, fitness apps make exercise results visible via data visualization, simplify the exercise process through scenario-based courses, and eliminate loneliness during exercise with light social interaction. In terms of persistence, they give clear direction to exercise through step-by-step goals, impose constraints on exercise via two-way supervision, and boost confidence in exercise through the accumulation of achievements.

These effects not only raise college students' favorable impression of after-school exercise but also make them more willing to persist in it over the long term.

References

- [1] Wang Hexia, Tang Liang, Zhu Jing Empirical study on sports apps in extracurricular physical exercise in universities: a case study of China University of Petroleum (Beijing) [J]. *Stationery and Technology*, 2025, (14):62-64.
- [2] Zhao Mingjie Research on the Mechanism of Promoting College Students' Health through Sports Apps - Based on the Case Analysis of "Jumping Rope Every Day" [C]//Guangzhou Sport University, Sports Physiology and Biochemistry Branch of the Chinese Society of Sports Sciences, Sports Medicine Branch of the Chinese Society of Sports Sciences. Abstract Collection of the 2025 Guangzhou International Symposium on Sports and Health and the Forum on the Development and Reform of New Era Sports Hospitals (Wall Poster Exchange) College of Physical Education, Guangzhou University; , 2025:25-26.
- [3] Yang Xiaokang Research on the Communication Effect of Fitness Apps from the Perspective of Usage and Satisfaction Theory [D]. Xi'an University of Technology, 2025.