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Research on Internet Assisted App Information Security System for College Students' Physical Health

Dai bo, Yang Xiaofang*
Shangrao Normal University, China
**Corresponding Author.*

Abstract: With the advancement of technology and the development of the Internet, smart phones have become increasingly powerful, and various fitness apps have sprung up like mushrooms, which are deeply loved by college students. Fitness APP is a type of third-party application on smartphones and tablets. It has functions such as sports knowledge dissemination and fitness video guidance. It not only meets the needs of college students for sports knowledge learning and fitness guidance, but also affects their motivation for physical exercise. And then affect the enthusiasm for physical exercise and physical exercise behavior. This article adopts the method of literature data, questionnaire survey, mathematical statistics and logical analysis. The cognition and usage status of college students' fitness apps were investigated, and the motivations of college students using fitness apps to participate in physical exercise were analyzed. The overall influence of fitness apps on college students' motivations for physical exercise was explored, as well as the internal and external motivations of fitness apps on college students' physical exercise. On this basis, suggestions are put forward to improve the motivation of college students' physical exercise in the way of fitness APP.

There are many methods used in this study, such as questionnaire survey method, logical analysis method, and literature data method. The conclusions obtained through the research can be summarized as follows:

First, since the birth of fitness apps in China, they have always shown a rapid development trend, showing more advantages, such as scientific, convenient, economical, and social. It is highly praised by college students and fitness enthusiasts.

Second, it allows college students to easily understand that scientific physical exercise is one of the functions of fitness apps. Supervises college students to exercise themselves, learn exercise methods, improve physical skills, and count sports exercise data recording, socializing with friends, video teaching, etc., are the core functions of college students applying this kind of APP. The time, frequency and intensity of college students' use are good and reasonable.

Third, through the application of fitness apps the crowd conducted a survey and comparative analysis, and found that college students who use APP have more professional physical exercise skills and higher fitness enthusiasm. It can be determined that fitness apps are useful for strengthening college students' physical exercise ability and enthusiasm. It has shown a significant positive impact.

Fourth, based on the requirements of the National Student System Health Standards, fitness APP activities have been organized to test subjects' physical fitness in the direction of speed, endurance, and explosiveness, and adopt experimental interventions and comparing the methods. According to the results, it is concluded that the test performance level of college students has been significantly improved. Through a comprehensive analysis of the results of all test items, it can be determined that fitness apps can effectively improve the fitness level of the university.

Key-words: Fitness apps; college students; physical exercise; physical health

1 INTRODUCTION

The development of sports activities is based on intelligence and sports, and belongs to a type of social cultural activities. It aims to strengthen people's health, improve anti-virus ability and quality of life, improve lifestyle awareness, cultivate goals, and organize social activities[1]. The standard of physical exercise for college students is generally: in terms of frequency, it is a cycle of training, such as the number of exercises per week. Physical exercise must be carried out regularly and systematically, which can be rationally arranged according to their own daily routines. In general, a good exercise effect is 3 to 5 physical exercises per week. In terms of intensity, for example, the intensity of aerobic exercise can be determined by measuring heart rate speed response; the intensity of strength training can be determined by muscle response. In order to improve physical

fitness, we need to do exercises of a certain intensity repeatedly. After adjusting to this intensity, we need to gradually increase the intensity of exercise. Generally speaking, the time of each exercise for college students should continue for about 25 minutes of aerobic exercise and then 30 minutes of physical training. The total time for each exercise should be more than 1 hour. However, according to related investigations, the physical exercise of college students does not meet the standards of physical exercise at all, and some college students even refuse to exercise because they don't know how to exercise.

According to the survey results of the predecessors, the proportion of college students in a certain province or city that did not meet the standard is 10.16%, and some of the students' functions and quality indicators have declined. It can be seen that the emphasis and participation enthusiasm of college students for sports courses is obviously insufficient. In the "National Student System Health Standards" (2014), students' physical test scores are listed in the student files, and the physical test scores are evaluated and awarded, and the physical test scores are directly linked to the graduation certificate. Even so, college students fail to give physical exercises High attention needs to continue to be improved.

In this context, this article conducts research, focusing on the "National Student Physical Health Standards" related items in the form of questionnaire surveys, and launching a comprehensive exploration of the factors affecting college students' physical fitness and the status quo of fitness APP recognition and use. Some college students (samples) of the university who use and do not use fitness apps will conduct questionnaire surveys and physical fitness tests, and analyze the relevant data obtained.

The topic of this research has research theoretical significance and practical significance. College students are the mainstay of the nation's construction. It is of great practical significance to correctly understand and accurately grasp the current physical fitness of college students. This article organizes and analyzes the data to form a data statistic on the physical health of college students. Finally, college students Analyze and summarize the health problems. Subsequently, the author took the physical health of students as the starting point for analysis, and through questionnaire surveys and tests, carried out a comparative analysis of the physical status of the two types of student groups (with or without fitness apps). Through data analysis and the feedback of the questionnaire, draw conclusions and put forward corresponding improvement suggestions or strategies, and strive to continuously explore the positive effects of fitness apps on the physical and mental health of college students.

2 LITERATURE REVIEW

Taking the United States as a microcosm, the world slowly began to pay attention to health and figure. According to confectionery news, the US dessert market will shrink by 1% between 2016 and 2021. Part of the reason is the slow growth of US GDP, and part of the reason is that Americans have a growing sense of health; the world-famous Coca-Cola Company had net income of US$35.41 billion in 2017, a year-on-year decrease of 15%. The net profit attributable to shareholders of listed companies plummeted by 81% to only US$1.248 billion. With the improvement of people's consumption levels, under this trend of consumption upgrades, how to maintain a healthy physique has become more and more important for people. According to statistics from APP Annie, fitness apps were one of the most popular types in the United States in 2017, occupying about 9% of the market share of non-gaming apps in the United States[2].

In 2005, relevant agencies in the United States put forward relevant requirements for local students to exercise, that is, to maintain at least one hour of exercise time per day. In addition, the "Dietary Health Guidance" (2005) jointly issued by the U.S. Department of Health and the Department of Agriculture provides a comprehensive explanation of the importance and necessity of physical exercise, and requires state colleges and universities to organize various sports activities every day. Ensure that the student's participation is not less than 1 hour. In the above-mentioned "Guide", from the perspective of the government, specific recommendations on the people's diet and health are put forward. In 2010, the relevant functional departments in the United States revised the "Guide", including adult and children's physical exercises into the guidance system, and put forward the requirement of 60 points for daily fitness for elementary and middle school students. This report pointed out that people's good habit of physical exercise can effectively strengthen the resistance to external diseases, maintain a good mentality and lifestyle. Many scholars in the United States have carried out a lot of research on

extracurricular physical education homework, and classified them according to different characteristics, such as inter-school homework and class homework [3].

Through practical investigation and analysis, it can be determined that the sports industry in the United States has developed rapidly, and has a relatively mature theoretical and practical system, involving social sports, economic sports, college sports and other fields, occupying the development of sports in all countries in the world. The research on physical health in the United States is also prominent, which is closely related to local regional policies and culture. Since the 1960s, the American scientist Edward Hitchcock has been committed to the research work on the measurement of students' physical indicators, mainly related to height, chest circumference, age, vital capacity and so on. At the same time, the well-known Copper Lab abroad has developed the Fitness Gram test system for students' physical fitness measurement, which has made a huge contribution to the development of the national fitness industry [4].

The participation of college students in physical exercise has a direct influence on their interest level. Deci et al. (1975) pointed out through research that if external reward factors are integrated into the process of cultivating college students' physical exercise, it has a significant effect on mobilizing their participation enthusiasm and enhancing interest compliance. If various restrictions are imposed on participation in sports and fitness activities, it is easy to weaken the enthusiasm and willingness of individuals to participate in sports activities, and all interest in sports and fitness will be lost [5]. The popularity of fitness apps in the past two years is conducive to cultivating college students' autonomous physical exercise behavior.

Foreign scholar LT Cowan [6] took Apple's hundreds of APP applications related to fitness and health as the research object, using mathematical, physical and chemical analysis methods to analyze the probability of promoting the application of advanced theories and programming to improve individual health. Through the description of the above-mentioned literature content, it can be found that foreign academic circles will basically adopt the method of mathematical, physical and chemical model construction to explore the internal relationship between fitness apps and audiences, and the conclusions obtained provide more substantial theoretical support for the study of this article[7].

Judging from the research literature on the factors that affect the physical fitness of college students, the academic community has put forward some research results, which have formed diversified conclusions from different starting points[8]. These research results are used to design the questionnaire of this article and conduct logical reasoning and induction. Has an important guiding role. Regarding the 2005 test report, Wen Hongze pointed out that "domestic college students do not have a strong sense of fitness, which is an important reason for the decline of college students' physical fitness"[9]. College students do not have this awareness, which shows that they do not understand the importance of extracurricular physical exercises to physical health[14]. This directly leads to college students' neglect of physical exercises, which in turn has a serious impact on the improvement of physical fitness[10]. The university level course arrangement is more reasonable, and students have relatively more extracurricular time, but because most students are not interested and aware, or do not know how to do physical exercises, their precious time is wasted on other things[11]. In the past two years, the popularity of fitness apps has made college students understand as much as possible about physical exercise methods and improve their autonomous physical exercise behavior[12]. However, due to the insufficient development of fitness apps, they still need to be optimized.

3 OVERVIEW OF RESEARCH CONTENT METHODS AND APP BASIS

3.1 Research content

This article takes the current students in Heilongjiang colleges and universities as the research object, takes the application of fitness apps as the starting point for analysis, explores the relationship with physical health, and finds whether fitness apps can effectively enhance physical health. And in Chapter 4, taking the students of Harbin Institute of Technology as an example, 100 experimenters were selected for 15-week training to test and analyze, understand the student test results after and before using the fitness app, and compare the app application and student sports Analyze the inner influence link between exercise behavior and attitude, whether it makes students interested in the sports industry. Does physical exercise using fitness APP software as a medium have a positive impact on physical health? This article will allow readers to understand the level of

understanding and use of fitness apps by college students. It proves that fitness apps are scientific instructional exercise software and use correct and scientific training methods to perform physical exercises, which can strengthen college students' physical fitness.

3.2 Research methods

(1) Documentary data method: The author collected a large number of domestic and foreign theories and documents related to the subject of this article through multiple channels (libraries, the Internet, etc.). The research object has a clear and objective understanding, which lays a solid theoretical foundation for subsequent case analysis.

(2) Questionnaire survey method: According to the needs of the research content, carry out the questionnaire design. Distribute electronic questionnaires to students of different grades to understand and analyze the basic information of current college students and the basic status of using fitness apps. Determine the students' willingness to use fitness apps and behavior preferences.

(3) Mathematical statistics: using EXCEL software to process the collected information and data, and combined with SPSS20.0 software to carry out statistical analysis.

(4) Logic analysis method: summarize and analyze the overall physical fitness of college students, express the data obtained from the questionnaire, and analyze the relationship between the factors and characteristics of the application of fitness apps and physical health of college students.

(5) Interview method: Based on the application of questionnaire survey and literature research, the interview outline was compiled for the research question, and the opinions on the connection between the application of fitness apps and physical health of the different survey samples were collected. Through in-depth interviews, provide valuable data support for subsequent suggestions for improvement[13].

(6) Test experiment method: In order to better understand the impact of college students' use of fitness apps on physical health, based on the reference to the regular physical examination items of college students, the author analyzes the vital capacity, sitting position and forward bending of college students. Tests were carried out for items such as body-up and 50-meter running (this test mainly tests the physical strength, cardiopulmonary function, endurance and other physical fitness indicators of college students, so height and weight are not within the scope of this test). The above determination of various test items presents the advantages of indirectness and convenience, which can be effectively grasped[14].

3.3 Validity test of questionnaire

In consideration of meeting the requirements of the validity and scientific principles of questionnaire design, the author invited a number of expert teachers to give specific opinions on the dimensions of the questionnaire and project design, and continued to improve it to ensure the validity of the overall questionnaire.

Table 1 Basic situation of validity test experts（$n=9$）

Expert name	Gender	Unit	job title
Teacher Zuo	male	Harbin Institute of Technology	Associate Professor
Teacher Jiang	male	Harbin Institute of Technology	professor
Teacher Luo	male	Harbin Institute of Technology	Associate Professor
Teacher Mu	female	Harbin Institute of Technology	professor
Teacher Yu	female	Harbin Institute of Technology	professor

Teacher Su	male	Harbin Institute of Technology	professor
Teacher Guan	male	Harbin Institute of Technology	Associate Professor
Teacher Zhao	male	Nanjing University	Associate Professor
Teacher Li	male	Nanjing University	Associate Professor

Table 2 Questionnaire validity test statistics table ($n=9$)

options	**Very reasonable**	**More reasonable**	**Generally reasonable**	**Not reasonable**	**unreasonable**	**total**
Choose the number of people	6	2	1	0	0	9
The proportion	66.67%	22.22%	11.11%	0%	0%	——-

3.4 Fitness App

3.4.1 Features of fitness apps

The English abbreviation of application is APP. Fitness apps are an inevitable product of the current Internet era and the in-depth development of sports construction. At this stage, the domestic and foreign academic circles have not yet unified the definition of the connotation of this application. The following mainly elaborates on representative viewpoints: Domestic scholar Yu pointed out that the essence of fitness apps is to rely on the Internet, big data, cloud computing, mobile terminals and other technologies to provide users with auxiliary guidance in sports and fitness. Kind of third-party applications. Huang Peng defines fitness apps as third-party apps that use smart phones as the carrier to record, store, analyze, and guide users' fitness exercise information, and provide multiple social functions in one.

By examining the existing defined viewpoints related to fitness apps, it can be found that their connotations are basically the same, and they are all mobile terminal application software developed to meet the needs of users for fitness activities. The author believes that fitness apps can be interpreted as relying on mobile devices to provide users with auxiliary services for various fitness exercises, such as recording and analyzing user exercise data, recommending more scientific and reasonable fitness plans; providing various professional fitness programs Teaching guidance (video, graphics, etc.); a mobile client third-party service application software that provides social functions and allows users to share their fitness experience with others on the platform, interact and communicate with others. Physical exercise behavior is an external manifestation of an individual's participation in fitness activities. It is designed to meet the fitness needs of users. Its behavioral activities show purpose, awareness, frequency and intensity.

Compared with other fitness electronic products, fitness apps are scientific. With the continuous improvement of our people's quality of life and income level, their fitness awareness has also been strengthened simultaneously. However, physical exercise presents professional characteristics, and how the general public can achieve scientific fitness has become a key issue. It can be seen from the questionnaire that, with the advent of fitness apps, it has effectively solved various problems of ordinary people in the field of fitness. APP plays the role of "coach" and can provide various professional guidance tailored to the actual situation of users. Fitness apps basically include all sports items, and can provide users with corresponding graphics, video and other information data to allow users to watch and learn. In this way, the diverse fitness needs of different users can be met. In addition, the application software is also equipped with an intelligent analysis function, which can tailor a corresponding exercise plan for users according to their needs and actual physical conditions, recommend scientific fitness methods and provide supporting services. Finally, this type of APP also launched specific fitness equipment, such as fitness watches, etc., after users wear them, they can measure their own physical indicators in real time, such as heartbeat, vital capacity, etc., so that users can clearly and accurately grasp their

physical health status. , And then make various exercise adjustments. From this, it can be found that compared with the fitness APP and the traditional fitness model, the former has more prominent advantages, which are mainly reflected in the aspects of rationality, economy, and science.

Nowadays, the pace of life is constantly accelerating, and people are more inclined to have convenient and timely goods and services. As far as contemporary fitness enthusiasts are concerned, traditional fitness models cannot meet their own convenient exercise needs, and have a serious impact on improving the enthusiasm and initiative of participating in fitness activities. The advent of fitness apps effectively meets the needs of bodybuilders for timeliness, flexibility, and portability. After applying the software, users can receive professional guidance and self-directed training at home without going to the gym. At the same time, it also saves a lot of costs for fitness enthusiasts, such as no need to purchase professional learning materials, no need to purchase gym membership cards, etc. Through the use of APP, users can quickly obtain corresponding professional teaching knowledge according to their own fitness needs, and can publish fitness information in real time, exercise online with other APP users, and make more friends. In addition, this kind of APP software is elegant and concise in application interface design, convenient and operability is strong.

When you want to do more professional sports, you must be equipped with professional coaches to give guidance. With the further development of the sports industry, the gym has grown rapidly like a spring rain. Investigations on the development status of the domestic fitness industry found that there are many disadvantages and shortcomings. For example, some gym owners place too much emphasis on short-term benefits, and the internal environment quality and coaches' professional ability are poor, and they induce trainees to apply for various membership cards. Generally speaking, the annual card of small gyms in third- and fourth-tier cities is as high as 1,000-2,000 yuan. This does not include the purchase cost of fitness equipment and professional coaches, which discourages many fitness enthusiasts. Fitness apps have many functional structures. In addition to providing professional fitness guidance and monitoring physical health, they also have social functions. The functions of fitness apps can enrich the amateur life of users. For example, by participating in the APP social platform, you can make more friends, share your fitness experience and experience with each other, and pass this information to sports novices or enthusiasts. There are also some fitness apps, which have the function of searching friends in the same city or nearby. This function is very suitable for college students to find like-minded people. The first phase of physical exercise, running fitness, outdoor exercise, etc., integrates competition and fun elements into the fitness process. To stimulate the user's sense of interest, thereby enhancing fitness enthusiasm and initiative.

3.4.2 Main functions of fitness app**s**

Generally speaking, there are two types of fitness APP platforms, one is the Apple APP platform, which is suitable for mobile terminals of the IOS system, and the other is the Android system. In the above system, the author selected 20 APPs based on the popularity value, and made relevant statistics on their function data. As can be seen from Figure 1, there are three main core functions of the two platforms: one is data recording, which accounts for 90% of the total; the second is social functions, which account for 85% of applications; and the third is video guidance and training. Planning function, application proportion differs by 10% from social function.

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space for making friends and interacting. Users can share their own fitness data results on the platform, get others' likes and comments, use themselves as the core, and continue to expand the scope of sports social networking, and get to know more like-minded people. Friends, and gradually upgrade from the network relationship to the real relationship, exercise together, supervise each other, and form a good physical exercise attitude. In the APP, there is also a functional module of "make training plan".

This module can perform statistical analysis on the user's own elements, such as the user's age, weight, and the number of APP applications, etc., and then make a fitness plan for the user, and give the user exercise Auxiliary reference guidance. In addition, there are demonstration videos explaining various sports items in the APP application. By watching the videos, users can grasp the professional standards of fitness items more quickly. Through voice reminders and supervision, they can gradually mobilize the user's sense of rhythm in participating in the exercise and strengthen it. Fitness experience. There are also some fitness apps that have specially developed wearable accessories products, such as fitness watches, etc., which have been well evaluated by the market user groups. After people wear the corresponding fitness accessories, they can provide users with personalized and intelligent service strategies, such as exercise plans, work schedules, and diet plans, through the monitoring functions of the accessories and the analysis of the APP.

3.5 Research results and analysis

3.5.1 Main functions of fitnBasic situation of college students using fitness app**s**

Table 3 Usage of fitness apps for college students ($n=853$)

use or not	Number of people	percentage（%）
Yes	501	58.8
no	352	41.2

From Table 3, 853 college students participated in the questionnaire survey, and the number of respondents who used and did not use fitness apps were 501 and 352 respectively. It can be seen that nearly 60% of college students will actively download fitness apps to meet their own exercise needs, indicating that this application software also has different degrees of competition in the college student market. At this stage, there are various types of sports media, and fitness apps have a strong competitive advantage among many media. This is also due to the powerful functions of fitness apps and the continuous improvement of college students' fitness needs. The core advantage of fitness apps is to realize data processing of college students' fitness information through various internal functional modules, so that college students can understand how to exercise, accurately control their own fitness results and progress, and mobilize college students' enthusiasm and participation in fitness. Enthusiasm: Through the analysis of the functions of many fitness apps, it can be found that modules such as friend ranking, personal level, and fitness tasks have also been set up, which have a positive impact on improving the self-confidence of college students in fitness and meeting their spiritual needs. The target users of fitness apps are between 15 and 30 years old. This part of the population is mainly students and migrant workers, and they have a strong acceptance of smart phone applications, and they can even better. Generally speaking, although college students are in the position of a socially disadvantaged group, they also have different levels of spending power and are more concerned about their own health. They belong to the core target group.

3.5.2 Analysis of the ratio of male to female students using fitness apps and the status quo of the school

The nine colleges and universities in the research object are double-first-class or regionally representative ordinary universities, which meet the research requirements of the research object of this article.

Table 4 Statistical analysis of research on selection of fitness apps for college students in some universities in Heilongjiang Province ($n=853$)

School	Number of people	Proportion	The number of people who don't use the app	Use APP (Male)	Use APP (Female)	School nature
Harbin Institute of Technology	117	13.72%	47	28	42	Double class
Harbin Engineering University	101	11.84%	40	32	29	Double class
Northeast Forestry University	102	11.96%	46	27	29	Double class
Northeast Agricultural University	106	12.43%	44	29	33	Double class
Heilongjiang University	97	11.37%	45	24	28	normal high school
Qiqihar University	85	9.96%	34	27	24	normal high school
Mudanjiang Normal University	80	9.61%	31	29	25	normal high school
Jiamusi University	74	8.68%	28	24	21	normal high school
Northeast Petroleum University	91	10.67%	37	26	28	normal high school

In this study, five cities including Harbin, Qiqihar, Mudanjiang, Jiamusi, and Daqing, which are resident in Heilongjiang Province, are used to determine the school samples. The final sample number is 9 including Northeast Forestry University, Heilongjiang University, Qiqihar University, Mudanjiang Normal University, etc., see the table above for details. These 9 schools are all representative universities in the city. According to relevant statistics, the distribution of survey respondents in various universities can be summarized as follows: The number of students in industrial universities is 117, of which 28 and 42 are male and female students applying fitness apps; and the number of interviewees in Harbin Engineering University is 101. The number of APP male and female students is 32, 29. The number of respondents from Northeast Forestry University was 102, and the corresponding indicators of the above-mentioned survey respondents were 27 and 29 respectively; the number of respondents from Northeast Agricultural University was 106, and the number of male and female students using fitness apps were 29 and 33 respectively. Heilongjiang University was transferred to 97 people, of which 24 male students used fitness apps, while the number of female students was 28; Qiqihar University was transferred to 85 people, and the number of male and female students who used such apps were 27 and 24 respectively ; Mudanjiang Normal University's total number of respondents and the number of male and female students using fitness apps were 80, 24, and 25, respectively; Jiamusi University and Northeast Petroleum University both received 74 people, of which male college students who used fitness apps were each There are 25 and 26 female college students, and 21 and 28 female college students respectively. The 9 universities of the research object are representative and meet the research requirements of this article.

Table5 The use of fitness apps by college students of different genders ($n = 501$)

use or not	Number of people	Proportion（%）
Boys	242	48.3
Girls	259	51.7

The data provided in the above table can be used to further calculate the ratio of men to women using fitness apps, which is 1:1.07. Among the surveyed groups, 259 female college students use such apps, accounting for 51.7% of the total, and 242 male college students, accounting for 48.3% of the total. In contrast, female college students do not have an advantage in physical fitness. It can only use the auxiliary support provided by fitness apps to enhance the professionalism of their own sound training, but the overall use of men and women is not very different.

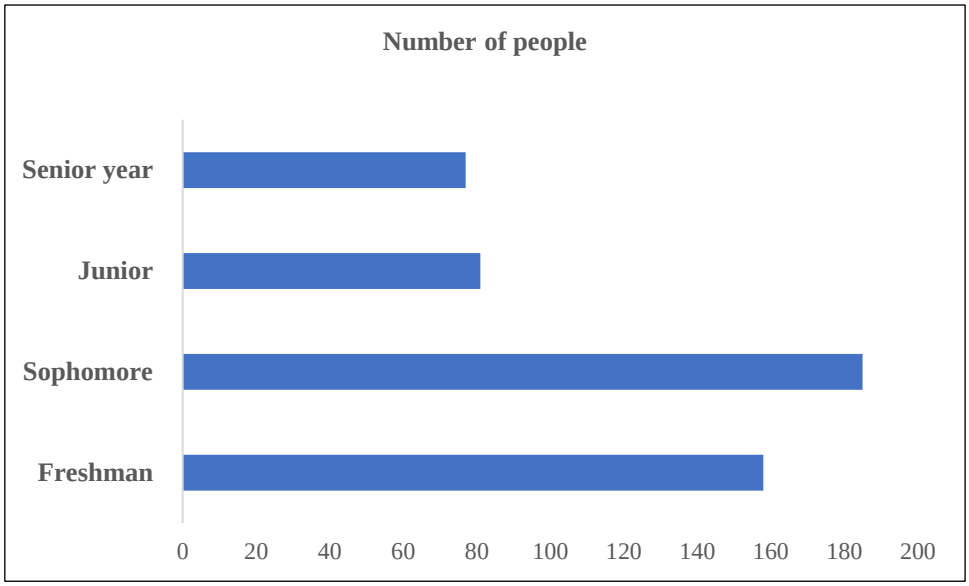

Fig.1. Application status of fitness apps for college students in all grades

The above figure mainly provides a statistical description of the specific situations of applying fitness apps by freshman to senior students in various grades. It can be seen that there are differences in the use of different grades. The total number of people who use APP in all grades is 501. There are 31.54% of the freshman students, or 158; the sophomores have 36.93%, or 185 the juniors have 16.17%, or 81. the seniors There are 77 people. Comparing the use of different grades of college students, it is found that freshman and sophomore students are significantly stronger in app application willingness than the other two grades. This situation may be affected by the increase in courses and academic research in the three and four of colleges and universities, and it may also be related to the lack of leadership in the development of physical exercise behavior in colleges and universities. Academic research and not developing good behavior habits, so the number of fitness APP applications is less than that of freshmen and sophomores.

3.6 College students' motivation to use fitness apps

Table 3 Motivation of college students using fitness apps ($n = 501$)

Motivation	Number of people	Motivation	Number of people
A. Sports and fitness	291	E. Improve sports skills	123
B. Master more sports professional knowledge and skills	189	F. Lose weight	143

C. Know more like-minded people	43	G. Watching sports competitions	51
D. Entertainment	69	H, other	78

The motivational characteristics of college students in applying fitness apps are manifested in two points. One is difference and the other is diversification. Among them, 58.08% of college students are mainly for sports and fitness, while 33.72% of students are to master more professional skills and knowledge of sports and fitness. The third motivation is to lose weight and body plasticity (28.54); the fourth is to strengthen the level of sports professional skills (24.55%); the fifth is the others (15.57); the sixth is to meet their own entertainment needs (13.77%). However, college students motivated to appreciate sports events and make friends accounted for only 10.18% and 8.58% of the surveyed population. It can be seen from the above that college students themselves pay more attention to their physical health, and most of them are willing to take physical exercises.

4 Conclusion

In colleges and universities, fitness apps are generally recognized by students. Among them, the number of users of fitness apps such as KEEP, LeDynamics, and Yuepaohuan has been increasing; the scientific application of fitness apps can improve college students' understanding of sports. Views on exercise; the longer the cycle and the more frequency with the help of fitness apps, it helps to cultivate the exercise habits of college students, especially for the formation of lifelong sports awareness and the attitude of participating in physical exercise. It has a positive impact. At the same time, it can ensure that students have a healthy physique. Colleges and universities in Heilongjiang Province have obvious differences and diversified distribution characteristics in promoting the use of fitness apps. They understand the general knowledge of sports and fitness, exercise to lose weight, improve sports skills, fitness making friends, leisure and entertainment applications, fitness shopping needs, etc. Motivation for each individual needs are different, and it reflects outstanding differences and diversified characteristics. In terms of consumption, college students spend less on the use and consumption of fitness apps. There are some items with higher fees in fitness apps. However, some college students can achieve good physical exercise needs only by using free items. Therefore, fitness apps are more cost-effective. high. The test was carried out by students of Harbin Institute of Technology as an example, and the test data were made and comparative analysis was carried out, which fully proved that the function of fitness APP has a significant positive impact on physical endurance, flexibility, lung function and other physical health. The use of fitness apps for auxiliary physical exercise can promote the healthy development of college students. The different functions of fitness apps have different positions for students' physical exercise. Students are required to use fitness apps to assist in physical exercise according to their own needs.

In order to change the attitudes, behaviors and perceptions of college students on physical exercise, and to enable the development of fitness apps in the group of college students, allow students to use them prevalently, and maximize the role of fitness apps, according to the research situation, three aspects are proposed. Feasible suggestions:

(1) Software development companies should establish cooperative relationships with social platforms with good performance, such as strength and word of mouth, and strengthen the promotion of fitness apps, so that more people can understand fitness apps, and they can do it based on user feedback. The optimization and perfection of technology, on the basis of video teaching and other functions, increase accuracy, comprehensiveness, and stability; look for relevant professional sports professionals, combine the actual needs of college students, and provide theoretical knowledge on a purposeful basis, combining gender and physical fitness and so on, formulate scientific and appropriate physical fitness programs and methods.

(2) Schools need to be people-oriented and set up special funds for the construction and improvement of sports infrastructure to meet student sports needs. Schools need to promote, publicize and encourage college students to use fitness apps, and hold fitness APP software lectures to explain them. Functional characteristics, usage methods, etc.

(3) College students should reasonably arrange their own exercise time, use fitness apps, reasonable and effective physical fitness programs, and apply the functions of fitness apps in a targeted manner according to

their own conditions, adhere to physical exercises, and enhance their physical fitness.

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