

Study on the Influence of New Media on College Students' Physical Exercise Behavior

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Abstract: New media is becoming an important method to promote physical exercise, and it is also an essential factor affecting the physical exercise behavior of college students. This study takes the influence of new media sports information on college students' physical exercise behavior as the research objective. By using a questionnaire survey and mathematical statistics, 545 college students in Shandong Province of China are selected as research samples. Based on the theory of new media exposure, fitness behavior theory, and self-efficacy theory, this study systematically discusses the influence and mechanism of new media exposure on the physical exercise behavior of college students in Shandong Province, so as to help college students improve their physical exercise behavior.

Keywords: New media; College students; Physical exercise behavior

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1. Introduction

1.1. Background

The 2020 China College Student Health Survey Report found that “although college students have high expectations for their own health and have taken actions, more than 30% of college students are not satisfied with their health status, and nearly 30% of college students do not meet the physical fitness standards.” The report shows that college students have significant health problems, and their exercise habits and lifestyles need to be improved.

National fitness is an important means and way to achieve national health. According to China's National Bureau of Statistics, 37.2% of the population aged seven and above will take regular physical exercise in 2020^[1]. This shows that more and more people in China have realized the importance of taking part in physical exercise. College students are an important group to participate in physical exercise and sports fitness as they are vital to the future of the country.

According to the 50th Statistical Report on the Development of China's Internet, by June 2022, the number of Internet users in China has reached 1.051 billion, an increase of 19.19 million over December 2021, and the Internet penetration rate has reached 74.4%^[2]. China has a huge number of mobile Internet users and a large

user base for new media.

This study analyzes the current situation of college students' exposure to new media sports information through questionnaire survey data, analyzes the role and advantages of new media sports information dissemination, and proposes corresponding solutions to existing problems.

1.2. Theoretical grounding

- (1) New media contact theory: New media contact is relative to media contact. Slater mentioned that “media contact refers to the extent to which the audience is exposed to specific information or a type of media content”^[3].
- (2) Fitness behavior theory: Broadly speaking, anything related to the promotion of health can be called fitness. Song pointed out that “exercise behavior is a physical activity with a certain intensity, frequency, and duration mainly carried out in leisure time, with the main purpose of achieving good health”^[4].
- (3) Self-efficacy theory: The theory of self-efficacy (perceived self-efficacy or sense of self-efficacy) was first proposed by Bandura in 1977. According to German health psychologist Ralf Schwarzer, there is a general sense of self-efficacy, which refers to “an individual’s general confidence in coping with the challenges of different circumstances or in the face of new things”^[5].

2. Literature review

There are several researches on the influence of physical exercise behavior. Pan *et al.* conducted a questionnaire survey and found that social support, especially peer support, can play a positive role in the factors affecting the change of sports training behavior of college students, and accurate intervention can be carried out on campus based on this feature^[6]. Chen *et al.* found that long-term use of sports apps has a positive effect on sports attitude and physical exercise willingness^[7]. Zhu found that there were significant differences in the level, time, and ability of sports participation of college students of different genders and grades^[8].

The research on the influence of new media sports information on physical exercise behavior has been carried out by several scholars. Tak and Jung explored the impact of students' interest in sports media on sports values and physical activity. The research showed that students' interest in sports media affects their sports participation, while students' interest in sports activities partially affects their sports participation, and sports participation has a partial impact on sports values^[9]. Digel pointed out in his research that mass media advertising can stimulate the sports industry and change people's perception of mass sports consumption, but the negative effects of sports media cannot be ignored^[10]. However, contrasting conclusions are also drawn. Kim used a sampling survey to investigate and analyze the relationship between media exposure to sports, sports star image, and sports attitude, and found that the enterprising image of sports stars was higher in the group with high media exposure to sports^[11]. However, there was no significant difference between the appearance, game image, and moral image of sports stars. Secondly, people who have close contact with media sports have a higher attitude towards sports individual values. However, the degree of media contact has no significant effect on the social and psychological value of sports. Lastly, the degree of media contact with sports has a significant impact on the aggressive image of sports stars, which affects the personal value, social value, and psychological value of sports. However, the level of media exposure to sports has no direct effect on sports attitudes.

3. Methodology

In this study, 545 non-physical education majors in colleges and universities in Shandong Province of China were investigated, including 87 undergraduate majors. Among them, 245 were boys and 300 were girls; there are 135 freshmen, 138 sophomores, 138 juniors, and 134 seniors.

The contents of the questionnaire are divided into three parts: basic situation investigation, current situation investigation of access to new media sports information, and current situation of physical exercise behavior. Excel and SPSS were used to make a basic descriptive statistical analysis of the distribution of college students' basic information, the status quo of their exposure to new media sports information, and their participation in physical exercise.

4. Results

4.1. Influence on the selection of physical exercise programs

The results showed that the most common physical exercise for college students is running, accounting for 62.33%; small ball games followed, including table tennis, badminton, and tennis, accounting for 40.2%; jumping rope ranked third, accounting for 36.74%; the remaining yoga, large ball games, Frisbee, swimming, aerobics, fitness equipment, and others, respectively accounted for 27.79%, 25.32%, 23.76%, 23.1%, 22.86%, 19.2%, and 5.83%. According to the data from Dianping app, since May 2022, the search volume of parent-child Frisbee has increased by 350% from the previous month. Frisbee, a popular game on social media recently, is also chosen by some college students.

The results showed that different sports information frequency samples did not show significant differences in nine items including small ball games, large ball games, swimming, aerobics, yoga, fitness equipment, jumping rope, running, and others, but the sports information frequency samples showed significant differences in Frisbee.

4.2. Influence on the duration of physical exercise

The exercise duration of college students was less than 30 minutes, accounting for 45.36%; college students taking 30–60 minutes to exercise accounted for 37.12%, ranking second; those exercising for 60–90 minutes accounted for 12.57%; and 4.95% of college students had more than 90 minutes of exercise time.

It can be concluded that there is a positive correlation between new media sports information and the physical exercise duration of college students, that is, the longer the frequency and time of exposure to new media sports information, the longer the physical exercise duration of college students.

4.3. Influence on the frequency of physical exercise

According to the answer gradient of the exposure frequency and time of new media sports information in this study, since the correlation between new media sports information and the frequency of physical exercise is to be studied, the answer of the frequency of physical exercise was integrated, and the above quantitative data were analyzed using Pearson correlation.

According to the questionnaire data, it can be concluded that there is a positive correlation between new media sports information and the frequency of physical exercise, that is, the higher the frequency and longer the time of new media sports information, the higher the frequency of physical exercise of college students. As the frequency of exposure to new media sports information increases, college students' interest in physical exercise will be imperceptibly enhanced, thus driving the frequency of college students' participation in physical exercise.

4.4. Influence on physical exercise intensity

The answer of physical exercise intensity was integrated and assigned to “minimum intensity, small intensity, sub-medium intensity, medium intensity, large intensity, sub-extreme intensity, and extreme intensity” in turn. The above quantitative data were analyzed using Pearson correlation.

According to the data, it can be concluded that the frequency of exposure to new media sports information has no correlation with the intensity of physical exercise of college students. However, the exposure time of new media sports information will have an impact on the intensity of physical exercise, and there is a positive correlation, that is, the longer the exposure time of new media sports information, the greater the intensity of physical exercise of college students.

5. Conclusions and suggestions

5.1. Conclusions

- (1) Mobile phone app is the most common way for college students to obtain sports information, and the type of sports information they are exposed to is mostly entertainment sports information. College students have less exposure frequency and time, and the current situation of their exposure to new media sports information is not ideal, and the sports cultural literacy needs to be strengthened.
- (2) Running is the most popular sport chosen by college students, and most students choose sports that are suitable for themselves and easy to participate in. Although college students participate in some physical exercise, the frequency and time of exercise are insufficient to achieve the purpose of fitness or health.
- (3) New media sports information has an impact on college students' physical exercise programs, exercise duration, frequency, and intensity.

5.2. Suggestions

- (1) The government should attach importance to physical education in colleges and universities and invest more funds to improve sports facilities in colleges and universities. It is necessary to pay attention to the guiding role of new media, eliminate the appearance of bad media, and ensure the accuracy of information received by college students.
- (2) Relevant personnel using new media to disseminate information should understand the actual needs of college students in sports information. In addition, new media should increase the dissemination of relevant knowledge when disseminating sports information.
- (3) Lastly, college students should reasonably arrange their spare time for physical exercise, strictly control their time and frequency of surfing the Internet, and learn to distinguish the authenticity of sports information on the Internet.

Disclosure statement

The author declares no conflict of interest.

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