

Research on the Model of Safety Factors Related to Outdoor Sports for College Students Based on Big Data Analysis

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Abstract:

Introduction: The existence and development of College Students' outdoor sports activities, the setting of sports events and the layout of sports industry must depend on the environment and be restricted by environmental factors.

Objectives: This paper tries to explore the external factors affecting teenagers' sports participation by using ecosystem theory from the perspective of teenagers' sports participation.

Methods: Starting with the environmental factors of College Students' outdoor sports, this paper combs and analyzes the relevant literature on the environmental factors affecting outdoor sports, and constructs the environmental evaluation elements of the development of outdoor sports.

Results: The results show that in order to promote teenagers' sports participation and improve their physical health level, we need to systematically think and understand various environmental factors affecting teenagers' sports participation from the perspective of development, and provide a good ecological environment

Conclusions: The results of this paper provide a theoretical reference for the analysis of environmental influencing factors of College Students' outdoor sports and the research on the sustainability of outdoor sports.

Keywords: Big Data, environmental factors, environmental assessment elements, ecological environment.

INTRODUCTION

Through unremitting efforts and rapid development, China has played an important role in displaying the strong charm of the Oriental Dragon on the world stage. Today, with the continuous changes in the mode of production and lifestyle, the party and the government also attach great importance to the healthy growth of young people, especially young students¹. In the 20 years from 1995 to 2015 alone, five national student physique monitoring were carried out². The curriculum reform at the beginning of the new millennium put forward the concept of health first. In December 20016, the first national school physical education conference since the founding of the people's Republic of China was held³. In April 2017, the Political Bureau of the CPC Central Committee held a special meeting to discuss the physical problems of teenagers⁴. On April 29, 2017, the launching ceremony of sunshine sports for hundreds of millions of students was held⁵. On May 7, 2017, the opinions of the CPC Central Committee and the State Council on strengthening youth sports and enhancing youth physique were issued⁶⁻⁷. However, to promote the continuous improvement of teenagers' physical and mental quality, one of the important work is to grasp the subjective and objective factors affecting teenagers' physical development, so as to make the measures more targeted, as is shown in figure1.

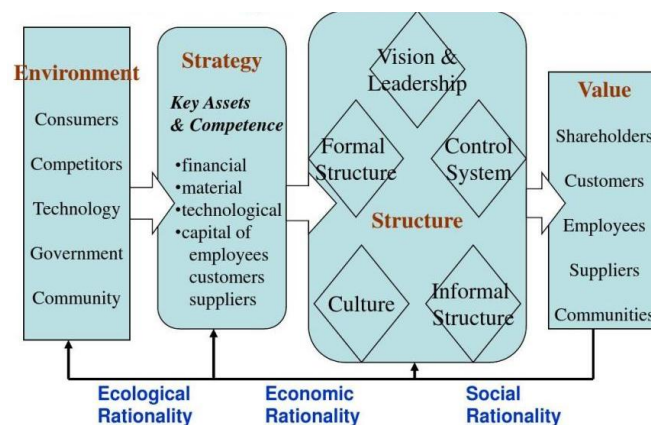


Fig. 1. Behavioral system model of ecosystem theory

OBJECTIVES

Therefore, this paper tries to explore the external factors affecting teenagers' sports participation by using ecosystem theory from the perspective of teenagers' sports participation.

METHODS

PHYSICAL CONDITION AND SPORTS PARTICIPATION OF TEENAGERS IN CHINA

Adolescence is an important stage of life development and a key period for the development of physical and mental health and various physical qualities. It is also the main force of national development and social production and life in the future. The physical condition and development of teenagers and children in the "preparatory institutions" are major events related to the future of the country and the nation. It is not only an arduous and long-term strategic goal, but also an urgent and complex practical task⁸. The 20-year monitoring of students' physique shows that students' physique is mixed: Students' height, weight and other morphological development indicators show an increasing trend, the symmetry of physical development is continuously improved, and students' nutritional status is significantly improved⁹. At the same time, with the improvement of living standards and good nutrition, students' physical quality, especially endurance quality, has continued to decline for 20 consecutive years. The myopia rate of urban students remains high, and the detection rate of obesity is rising.

So, what is the reason that we are proud of the great trend of total GDP growth, rapid economic development and improvement of comprehensive national strength? The physical condition of teenagers is interrelated with many factors such as daily diet, nutrition matching, work and rest habits, living environment and physical exercise, among which physical exercise is the most positive factor. In 2000, the national Ministry of education and other five ministries (bureaus) and commissions concluded that the fundamental reason for the continuous decline of teenagers' physique since 1985 is the lack of exercise. According to the investigation and comparison of some parts of China and the United States by Zhou Lijun and others, in addition to sports, American teenagers spend more time on sports activities every day than Chinese teenagers¹⁰. The proportion of teenagers who do not participate in sports activities in the United States is less than that in China, and the duration of participating in sports activities every day is significantly longer than that in China. In particular, in sharp contrast, the proportion of people who spend more than 60 minutes on sports activities every day accounts for 35.2% in the United States, while only 5.3% in China. The research shows that the time for teenagers to participate in sports activities should be 10 hours or more every week, and at least the total activity time every day should reach 1 hour. Only in this way can the amount of exercise serve the physical and mental health of teenagers well.

A BRIEF INTRODUCTION TO URIE BRONFENBRENNER'S ECOSYSTEM THEORY

Brown Finn Brenner was a professor at Cornell University before his death. He published the book "human development ecology" in 1979, put forward the ecosystem theory, and gradually improved the theoretical system of this achievement and enriched the research content in subsequent research. This theory is generally regarded as the deepest human analytical framework on the impact of the environment on individual development. Bronfenbrenner believes that human development is a composite function of human and environment, that is, $D = f(P, E)$. Among them, D refers to development, P refers to people, and e refers to environment. In this way, human development is inextricably linked or interactive with ecosystems at different levels. These environmental systems directly or indirectly affect human development in various ways and ways. Brown fenbrenner divided ecosystem into micro system, medium system, external system and macro system, which constituted the system model of ecosystem theory.

The innermost layer of the system is microsystem. Micro system refers to the system that individuals face and contact directly. When individuals are in it, they will form specific activity patterns, behavior roles and interpersonal relationship patterns. Obviously, these micro systems affect the effect of individual socialization. For example, family, school, peer group and network are all important micro systems experienced by individuals. Each individual in the microsystem interacts with the people, things and information around him in a face-to-face and direct way. For example, parents' words and deeds, companions' play and coexistence, etc.

The second system is mesosystem. It refers to the interaction process and connection between two or more Microsystems, such as school and family, the relationship between parents and peers, etc. In short, meso system is the system of microsystems and the interaction between individual microsystems. The interaction of micro systems in the system also affects the development of individuals to a certain extent. For example, parent-child activities held by the school, teachers' home visits, parents' meetings, etc.

The third system is exosystem. It refers to the action process and connection between two or more environments. At least one of these environments does not include developing individuals, but the events in them will affect the action process between micro systems. For example, parents' work units, school leadership institutions and local church management institutions will indirectly affect the growth of individuals. For example, the good salary and welfare system of the parent work unit can provide an economic basis for children's education, life and other activities, and the working time arrangement of the unit will also determine the parent-child interaction and relationship between parents and children to a great extent.

The fourth system is the macro system, which refers to the whole social environment and ideological background of individual growth. It is the cultural, subculture and social environment existing in micro system, medium system and external system. It also directly or indirectly affects the acquisition of individual experience, the acquisition of roles and the absorption of knowledge. It has the effect of "moistening things silently", such as social stratum, economic structure, cultural model, values, customs, laws and policies, etc. For example, the various "door" events about teenagers on the Internet recently directly reflect the lack of spiritual and cultural life in the current society and the social reality of pursuing material sensory enjoyment.

RESULTS

Nearly 30 years of investigation and research show that the lack of physical exercise of teenagers has greatly affected the physical health of teenagers in China and restricted their development. From the perspective of Brownian Brenner's social ecosystem theory, it should be clear that the problem of teenagers' lack of physical exercise is never and can not be just school sports or a unilateral problem, but a comprehensive social problem involving schools, families and society. Therefore, this problem should be placed in the whole environment of China's social development, examined in an all-round way from different social fields, levels and perspectives, and analyzed the objective influencing factors, so as to explore the countermeasures. The environmental elements of outdoor sports are shown in Figure 2.

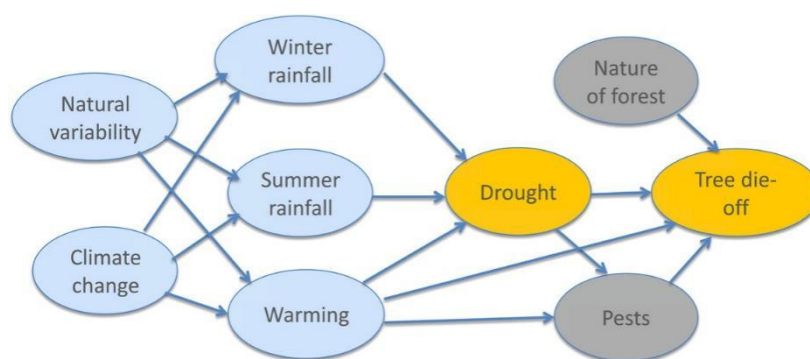


Fig. 2. The environmental elements of outdoor sports

DISCUSSION

FIRST SYSTEM: MICROSYSTEM

As an integral part of the human cultural system, sports not only has the inherent fitness and entertainment effect, but also an important means to realize the socialization of teenagers. As the unity of natural attributes and social attributes (personal attributes), people do not know sports from birth. People's likes and dislikes towards sports and even the degree of participation in sports are the result of being influenced by others (socialized executors) on specific occasions (socialized institutions). Families, schools, networks and peer groups in the microenvironment, as important institutions and factors affecting teenagers' socialization, parents, teachers and

peers, as important influencers of individual socialization, play a very important role in the influence of teenagers' and children's sports participation. Therefore, it is of great significance to explore the impact of Microsystem on Teenagers' and children's sports participation.

School is a social organization that teaches and cultivates people. School physical education is an integral part of school education. The school physical education environment that directly affects students' physical education participation includes school physical education natural environment, school physical education normative environment and school physical education social environment. Among them, the natural environment of school sports, such as school buildings, sports buildings and their daylighting, lighting, sports venues, equipment unprepared, geographical factors, etc. are the material basis for the survival and development of school sports and the basic conditions for students to carry out physical exercise. The direct influence of the social environment of school physical education on students is mainly reflected in peer groups, teacher-student relationship, school spirit, class spirit, teaching atmosphere and so on.

SECOND SYSTEM: MEDIUM SYSTEM

The socialization and growth process of teenagers are directly related to the factors of the micro system, and all of them complete the socialization function of teenagers when their own conditions allow. However, if these Mantis factors are in their own way and do not communicate and coordinate with each other, their role in the growth and development of teenagers is very limited. Therefore, the interaction of various factors in the micro system should be realized, which will transition to the level of the system.

The first is the interaction between family and school. The school can regularly organize parents' meetings, hold parents' sports training courses, and systematically hire experts and scholars to teach parents the contents and methods of children's physical exercise and the importance of physical exercise. Help parents understand the situation of teenagers' sports participation in school, so as to strive for family support for teenagers' sports participation. The second is the interaction between school and community. For example, the opening of school stadiums and gymnasiums can provide young students in the community with sports facilities and a good sports participation environment during holidays. In addition, the community should also provide suitable sports venues for young people to learn from cattle, and provide more space and opportunities for sports activities for young people by holding family games, youth competition activities, sports skills training and other ways. Thirdly, the interaction between school and mass communication. With the development of science and technology and the advent of the information age, mass communication has become an important force affecting students' life. It not only brings a violent impact on the thought of learning cattle and changes students' sports values, but also affects their tendency to engage in sports activities. Therefore, schools should recognize the important impact of mass communication on students' sports participation, take it as an effective auxiliary means of physical education in school physical education, take the initiative to use mass media means, change the original educational concept, and carry out various forms of physical education for students. The environmental impact factors of outdoor sports are shown in Figure 3.



Fig. 3. The environmental impact factors of outdoor sports

THIRD SYSTEM: EXTERNAL SYSTEM

Through the above understanding, it can be judged that the micro system and medium system have a direct impact on Teenagers' socialization and sports participation, while the external system and the macro system to be discussed below have an indirect impact on teenagers. Zhang Wenxin believes that parents' working environment will affect teenagers' behavior at home, and therefore affect the quality of parents' upbringing. Therefore, parents' working environment and communication circle will also indirectly affect teenagers' sports participation.

THE FOURTH SYSTEM: MACRO SYSTEM

The function of macro system on Teenagers' sports participation is to indirectly and implicitly affect teenagers' behavior choice through macro factors such as system, culture and social atmosphere. Under the influence of exam oriented education, it inevitably leads to the contempt and exclusion of learning contents other than exam oriented, so that the recognition of sports in society and schools is low, and it is often in the situation of "speaking is important, doing is secondary, and not when busy". The current student enrollment system also causes parents to pay more attention to their children's cultural achievements than to their children's physical health. In their spare time, children are also required to learn foreign languages, musical instruments, painting, computers and other courses, leaving little time for sports. In addition, sports policies and regulations, economic development, urban-rural dual social structure, Chinese traditional Confucian culture, the changing culture of modern society, lifestyle, health concept and other factors also have a profound impact on Teenagers' sports participation.

CONCLUSIONS

The concept of ecosystem development holds that when an individual is in the ecosystem, even the most insignificant change of a certain element will bring changes to the whole ecosystem and affect the survival and development of other elements. Its effect is like the "Butterfly Effect". Therefore, the research on the influencing factors of teenagers' sports participation should not only consider the micro systems such as family, school and peer groups, but also consider the macro economy, culture and value orientation. Because it is not something that the society can do overnight to promote teenagers' active participation in sports and enhance teenagers' physique. In addition to the macro-control of social systems, laws and regulations, the micro system, medium system and external system control of teenagers' learning and life and the grasp of diachronic system are of great significance to improve teenagers' sports participation.

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