

# Health quotient behavior and interest in sports among college students in selected schools in China

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**Abstract:** Health quotient behavior is a thinking paradigm to guide college students to carry out physical management, and health quotient behavior is one of the effective ways for college students to grow healthily. This article analyzes the behavioral characteristics and influencing factors of health quotient behavior among college students, analyzes their effective mechanisms, judges the effectiveness of health quotient behavior thinking, and infers the particularity and rationality of the personality behavior theory of health quotient behaviour, building physical management skills for healthy business behavior. This paper sorts out the connotation and mechanism of health value behavior, and determines the influence mechanism and structure mechanism between the behavior characteristics of health value behavior and sports interest of college students from the perspective of behavioral psychology.

**Keywords:** Health quotient behavior, Interest in sports, Physical literacy, College students

## 1. Introduction

The advent of the information age brings the digital demand to college students' sports health, and also brings new sports interest connotation to college students' participation in sports to seek health. It is a new task to maintain the intensity and depth of college students' interest in sports, so that the lifelong sports consciousness can continue in the university education stage. In the university stage, the practice of the concept of comprehensive health and lifelong sports consciousness needs health value behavior to realize. Starting from sports interest and research paradigm, the structural mechanism between health value behavior and sports interest is explored to solve the needs of college students' comprehensive health.

## 2. Raising the issues

### 2.1 The essence of healthy business behavior is the formation of operational knowledge system

Health is one of the hottest topics since the 20th century, and the formation of health behavior must be one of the results of the inheritance of health knowledge system. The inevitable connection between health knowledge and health behavior also makes them mutually external, that is, the connection between phenomenon and essence. There is no doubt that the knowledge system is systematic, but the academic circle has also had a new discussion, operational knowledge has become a new topic of the knowledge system. On the contrary, the exploration of operational knowledge system confirms the development of behavioral science<sup>[1]</sup>. From the initial physiological psychological conditioning theory to the current cognitive psychology, the system of behavioral science has become more and more rich, so that each discipline has its own interpretation of the same term, which is applied across disciplines. Health quotient is a great progress of health knowledge, a thinking paradigm, and a cultural consciousness. After decades of research and development, the theoretical system and operating system of health quotient should be systematically developed. The study of health value behavior, the analysis of behavior framework system, the discussion of internal and external structure mechanism, and the demonstration of behavior change and development mechanism are the results of further enrichment of health knowledge, the results of further systematization of health value consciousness and concept, and also one of the results of operational knowledge system.

### 2.2 From a practical point of view, health behaviors should be more rational

With the rapid development of today's society and the change of people's ideas, everyone attaches

great importance to health issues, and health is crucial to everyone, it is a necessary prerequisite for everything we do<sup>[2]</sup>. In order to have a comprehensive understanding of our health problems, a new word and concept have emerged. This concept is the term "health value behavior" first proposed by Professor Hsieh Huazhen, M.D., a Chinese-Canadian. Health Quotient Behavior is short for health quotient, which is a new comprehensive and comprehensive concept, and reflects a person's health intelligence, and a new way to assess whether a person is healthy. It mainly includes five factors: mental state, self-care, lifestyle, life skills and health knowledge, and its essence is to enable people to master their own health.

### ***2.3 From the perspective of operation, the digitalization of health information requires operation procedures***

Sports is the product of life. Since the birth of sports, the relationship between sports and life has been very close. Since the 21st century, people's lives are under the influence of information technology. As the closest partner of people's lives, sports has also undergone great changes in its characteristics. The most prominent feature is the data of sports, which can also be called sports digitization. Sports data is the inevitable product of the digital age, the inevitable product of the sociological attribute of sports, and the inevitable destination of health value behavior<sup>[3]</sup>. Of course, sports data itself is a complex system with discrete characteristics. Under the decentralized multi-level data distribution situation, matrix business behavior data is a realistic information demand for further analysis and discussion of the feasibility of the modal development of human sports behavior.

## **3. Research paradigms**

### ***3.1 Theoretical research paradigm***

Pasteur's quadrant, It was proposed by Professor Donald Stokes of Princeton University, who cited the French scientist Louis Pasteur (the father of microbiology and the inventor of Pasteur's sterilization method) and the Manhattan Project Project - the United States' plan to develop the first atomic bomb during World War II) shows that the purpose of understanding the world and applying knowledge in the process of scientific research can coexist. Stokes proposed his own conceptual model of the interrelationship between science and technology, which he called the "quadrangle model of scientific research," known as Pasteur's Quadrant<sup>[4]</sup>.

The Pasteur quadrant model is a two-dimensional coordinate system, the horizontal axis is the degree to which the scientific research is application-oriented, and the vertical axis is the degree to which the research is oriented toward understanding the world. The first Quadrant, the upper left quadrant, represents basic research driven purely by curiosity, called the Bohr 'quadrant; The second Quadrant, the upper right quadrant, represents basic research that is both curiosity-driven and application-oriented, called Pasteur's quadrant; The third Quadrant, the lower right quadrant, represents purely application-oriented research and is called Edison's Quadrant<sup>[5]</sup>. The fourth quadrant, the lower left, represents research that has neither exploration nor application goals.

According to Pasteur's quadrant model, this study includes both basic research on health value behavior and task-driven applied research. The definition and mechanism of health value behavior belong to basic research, and the discussion on health value behavior model based on this belongs to applied research.

### ***3.2 Behavioral research paradigm***

In the last hundred years, different schools of pedagogy and psychology have tried to explain human nature from a fundamental perspective. Behaviorism and constructivism, two very important schools in the field of psychology, have greatly influenced the educational concept in the 20th century. Behavioral constructivism is a theoretical achievement of modern educational psychology<sup>[6]</sup>. It was first proposed by Kazuo Ohsuma, a scholar from Kyoto University in Japan, who believes that many applications of behaviorism in psychology should be combined with cognitivism in education.

In this study, the identification behavior is not only the response result of individual physiological sensory stimuli, but also the acquired replasticity of individual behavior. From the perspective of cognitive psychology, this study recognizes the basic paradigm of skill behavioral ability and sports interest action as the vertical structure of the theoretical framework of health quotient behavior. From the point of view of physiological psychology, the basis of identification behavior in this study is the

comprehensive response of individual sensory system on the basis of external exercise and interest stimulation, and the maturity of sensory system is the horizontal structural basis of the theoretical framework of healthy business behavior.

#### **4. Research results and analysis**

##### ***4.1 Analysis of health quotient behavior structure mechanism***

###### ***4.1.1 Health quotient behavior structure mechanism framework***

The structural mechanism of health quotient behavior is the ultimate goal of this study, and it is also the research thesis. The structural mechanism and research thesis are decomposed, and the research is carried out step by step in the form of sub-thesis. The health quotient behavior structure mechanism consists of three parts: the first part is the health quotient behavior structure framework, the second part is the health quotient behavior model, and the third part is the dynamic mechanism of health quotient behavior. According to this, the three sub-points are: whether the health value behavior structure is scientific, whether the health value behavior model is complete, and whether the dynamic mechanism of health value behavior is reasonable<sup>[7]</sup>. Based on three points, the paper demonstrates the scientific integrity and systematicness of the structure mechanism of health value behavior, that is, health value behavior is the spiritual wealth of human beings under the scientific and complete system of health concept.

###### ***4.1.2 Basis of health quotient behavior structure mechanism***

The definition of health quotient behavior needs to be carried out on the theoretical basis of health quotient concept, the basis of structure mechanism of health quotient behavior needs to be carried out theoretical paradigm research on the basis of behavioral psychology, practical paradigm research on the basis of phenomenological theory, and the model of health quotient behavior needs to be carried out theoretical and practical paradigm research on the basis of educational organizational behavior<sup>[8]</sup>. On the basis of Marxist philosophy and sports science, it is necessary to carry out theoretical paradigm research and empirical research on the dynamic mechanism of health quotient behavior.

###### ***4.1.3 Operation basis of health quotient behavior structure mechanism***

Operation argument is the time and space examination of internal and external factors, and also the information-based teaching of individualized teaching without similar teaching in pedagogy. The practical operation of this research is carried out in the same step and frequency on the basis of theoretical research. First of all, on the basis of the theoretical research on the basis of defining the mechanism of health quotient behavior structure, the research on the construction of college students' behavior model is carried out, which provides practical basis for verifying the theoretical scientificity of the mechanism of health quotient behavior structure and further exploring the characteristics of the mechanism of health quotient behavior structure. Secondly, on the basis of the theoretical research on the structural characteristics of the health quotient behavior structure mechanism, the expression of the behavior model is followed by the research, which lays a solid factual basis for verifying and enriching the health quotient behavior characteristics<sup>[9]</sup>. Thirdly, on the basis of exploring the expression of the health quotient behavior model, the theoretical research on the dynamic mechanism is carried out, which not only tests the scientificity and integrity of the health quotient behavior model, but also provides a thinking paradigm and operational basis for discussing the intervention mechanism.

##### ***4.2 Sports interest is the necessary basic condition for the formation of healthy quotient behavior***

###### ***4.2.1 Influence of multiple sports interest system on college students' health value behavior***

From the source, this study recognizes and corresponds to the multiple systematism of college students' sports interest, which is mainly manifested in that the PE teacher system has the attribute of school education, and the PE teacher's sports interest constitutes the first link of the college students' sports interest system. The instructor system has the property of family education, and the instructor teachers' sports interest constitutes the second link of the college students' sports interest system. The club system has the attribute of social education, and the sports interest of the club constitutes the third link of the college students' sports interest system<sup>[10]</sup>.

#### ***4.2.2 The formation of college students' health value behavior is the result of the organization of sports interest education***

The formation of college students' health value behavior is an action system formed when individuals, organizations and collectives in educational organizations accept the concept of comprehensive health. Based on descriptive statistics and logical reasoning, it can be seen that college students' health value behavior is a development trend with different gender attributes and grade attributes, and at the same time, it is influenced by multiple factors influencing the organization of sports interest education. Therefore, through the study of educational organizational behavior and the influential factors of college students' sports interest education, we can study the construction logic of college students' health value behavior, and construct the motivation, ability and conditions of individual, organizational and collective health value behavior.

#### ***4.3 Structural mechanism of mutual coordination between sports interest and health quotient behavior***

##### ***4.3.1 Conflict management mechanism is the main color of the coordination between sports interest and health value behavior***

This study believes that the main topic of health value behavior research in educational organizational behavior is the conflict management and handling mechanism between health value behavior and sports interest. Whether it is individual organizational behavior or collective organizational behavior, the conflict of health value behavior is manifested by the sorting out of internal behavior structure and the interaction of external influencing factors<sup>[11]</sup>. Finally, it shows the dynamic and stable development mechanism of internal and external structure, especially in the realization degree of sports interest. The construction and dynamic change process of the internal and external structure of this behavior is the conflict management process of health quotient behavior. The basic principle of the conflict management mechanism of health business behavior should be the consistency of teaching goals and health business behavior goals, which is mainly reflected in that the educational development for individuals should be the coordination and unification of the teaching cognitive emotional skills goal system and the internal structure of health business behavior. The educational development for the collective should be the coordination and unity of the three levels of school education, family education, social education and the external structure of the health value behavior, and the educational development for the organization should be the unity of education and teaching.

The formation process of college students' health value behavior is the result of the role attributes of faculty and staff. From the nature point of view, first of all, the educational behavior of the role attributes of counselors has the characteristics of family education. Only when the healthy life of college students is based on the effective development of the healthy life of the class group can the formation of health value behavior have directional positive significance. Secondly, the educational behavior of the role attributes of school physical education teachers has the characteristics of school education, and the healthy life of college students comes from the effective development of teaching organization, which has qualitative positive significance for the formation of healthy commercial value behavior. Thirdly, the educational behavior of club management has the characteristics of social education, and the healthy life of college students comes from the effective development of after-school sports activities, which has positive and positive significance for the formation of healthy commercial behavior.

The formation process of college students' health value behavior is the conflict management process between overall health concept and sports interest factors. Sports interest is not only the expression of healthy behavior, but also the result of the interaction between the overall health concept and behavior, which has the intensity attribute and vector attribute. In the interactive process of the overall health concept and sports interest, the development trend of different genders and different grades is realized.

##### ***4.3.2 The structural mechanism model of the coordination between sports interest and health quotient behavior***

The expression of the structural mechanism model of the coordination between exercise interest and health quotient behavior points to the five-dimensional planar radar map.

The structural mechanism model is the embodiment of the core problem of health value behavior and sports interest conflict management, that is, the embodiment of the health concept of health value behavior subjects. Based on this, the expression of the structural mechanism model should have three characteristics: first, it shows the characteristics of the educational organization of the health quotient actors; second, it shows the change characteristics of the structural mechanism model components; third,

it shows the characteristics of the structural mechanism model components that change with the change of the educational organization of the health quotient actors.

First, define the first feature, the educational organization characteristics of the health value behavior subject, and use different colors to mark. Secondly, define the second feature, the change characteristics of the structural mechanism model component. The structural mechanism model component is the content of five parallel relations, which means that the five-dimensional plane plan can fully show the change characteristics of the structural mechanism model component. The ideal state is that the values of the five dimensions are equal, that is, the graph is a regular pentagon. Finally, the third feature is defined, that is, how to understand the characteristics of the structural mechanism model components that change with the change of the educational organization of the health quotient actors. Based on the definition of the second feature, the graphical representation of the structural mechanism model components of the health quotient actors is concentric. According to the setting of the core problem of the standard model of health value behavior, health value behavior presents a state of direct proportional growth with the growth of the educational organization of the health value behavior subject. Therefore, different colors are used to represent the educational organization of different educational subjects, and together form a six-color concentric regular pentagon to express the third feature.

Based on the above definition, a six-color concentric regular pentagon radar map is used to express the conflict management phenomenon between exercise interest and health value behavior of the structural mechanism model.

## 5. Conclusions

The study of college students' health value behavior has both the applied research paradigm of Pasteur's quadrant theory and the basic behavioral research paradigm. Health value behavior and sports interest are mutually external and influence each other. In the process of practice, it is necessary to respect the learning needs of college students, cultivate their love for sports, pay full attention to their sports and health learning interests and needs, and guide them to deeply experience the fun of sports and understand the value of sports. The ultimate goal of health behavior formation achieved in the health curriculum. The essence of the collaborative management of college students' sports interest and health value behavior is conflict management mechanism. The scientific management of management mechanism can be highlighted through the structural mechanism model, and new ideas and methods can be provided for the construction of digital sports.

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