

Article

Health First: The Sustainable Development of Physical Education in Chinese Schools

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Abstract: Strengthening school physical education (PE) is of great strategic significance in enhancing students' all-round development, which mainly includes their morality, intelligence and physique development. School PE has upheld the guiding ideology of 'health first' and continuously enhanced PE development in China. The guiding ideology of 'health first' has involved three stages: (1) improving students' physical conditions; (2) enhancing students' physical health, mental health and ability to socially adapt; and (3) promoting students' all-round human development. This paper provides a comprehensive review of the social and political contexts, aims, policies and practice of Chinese school PE, and goes on to analyze different sports views that reshape the value orientation of 'health first'. Moreover, this paper shows that a regulated and institutionalized Chinese school PE system has gradually formed with the evolving ideology of 'health first' and policy changes, but it has a long way to accomplish the new mission of 'foster virtue through education' in students' all-round development. For students' all-round development, Chinese school PE needs to prioritize the value proposition of 'foster virtue through education', advance the theoretical research on PE curriculum and teaching materials, and further enhance the reform of the assessment and evaluation system of constitutional health. Eventually, a new national school PE core curriculum needs to be established to integrate the mission of 'foster virtue through education' and guiding ideology of 'health first' together.

Keywords: China; school physical education; guiding ideology; policies; sports outlooks; foster virtue through education



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1. Introduction

Health is a prerequisite for socio-economic development and a natural element of promoting all-round human development. Studies have shown that moderate school physical activities can bring substantive health benefits (e.g., strengthening bone and muscle, losing weight, reducing pressure, etc.) to children and youths between the ages of 5 and 17 [1]. The Chinese government has put forward the underlying principle of 'health first' for developing school PE and strengthening students' physical fitness. Numerous education policies and PE curriculum reforms have been carried out to increase school physical activities and promote the physique and healthy growth of Chinese students. Before the reform and opening in 1978, 'health first' in school PE merely referred to strengthening physical fitness by teaching sports skills, closely following the sports model of the Soviet Union. Additionally, to better allocate limited sports resources, competitive sports were separated from the national education system; thus, a highly centralized National System of sports gradually developed. Over the past 40 years, with the steady social and economic development of China, 'health first' continuously evolved from a

collision of diversified sports outlooks to eventually realize the logical sublimation of educating people in an all-round way [2].

The Guidelines on Strengthening and Improving Physical Education in Schools in the New Era make clear that PE in Chinese schools at all levels should uphold the guiding ideology of ‘health first’ and realize the fundamental aim of ‘foster virtue through education’ [3]. ‘Health first’ entrusts Chinese schools with a grand new mission of integrating sports with education to cultivate young sports talents in an all-round way. However, there are still many theoretical and practical issues to be faced in the course of realizing ‘foster virtue through education’. Addressing these challenges, the value orientation of ‘health first’ in the reform of school PE not only promotes the healthy and sustainable development of PE in China, but also exerts tremendous influence on the sustainable development of PE and sports worldwide.

Despite the significance of ‘health first’ in Chinese school PE, there remains a dearth of research comprehensively reviewing the ideological evolution of ‘health first’, and there are unearthed problems facing the sustainable development of Chinese school PE and the realization path of cultivating virtue through PE. In addition, China’s most recent policies for, and practice in, improving school PE have not been fully analyzed or discussed. The contributions of this paper reside in: (1) its extensive review of the development of Chinese school PE in the context of ‘health first’; (2) its critical analysis of different sports views that affect the development of school PE; and (3) its identification of challenges and possible suggestions regarding the sustainable development of school PE. In specific terms, this paper fills the research gaps from the following perspectives: (1) to provide a comprehensive review of social and political contexts, aims, policies and practice of Chinese school PE guided by ‘health first’, which is not presented in the existing literature; (2) to analyze different sports views in the course of the sustainable development of Chinese school PE, which is not introduced in the previous studies; (3) to explore the realization path of implementing ‘foster virtue through education’ in ‘health first’ school PE; and (4) to provide a basis for future research to deepen reform of the National System that integrates sports and education.

2. Literature Background and Methods

This paper is a review of the development of Chinese school PE guided by ‘health first’. Before elaborating on the materials and methods, it is necessary to conduct a literature review based on the peer-reviewed journal articles related to the state of Chinese school PE.

2.1. Literature Review

A number of studies on Chinese school PE have been conducted that examine PE teachers’ or students’ perceptions of the purpose of school PE, PE curriculum reform and the effect of PE on strengthening students’ physical fitness. Recently, Meng and colleagues [4] interviewed 22 PE teachers from 13 secondary Chinese schools to survey their opinions on the new PE curriculum guided by ‘health first’. The results show that a majority of PE teachers were confused about how to enact the new PE curriculum due to cultural factors (e.g., a teacher-centered pedagogy, large class sizes and an exam-oriented culture), external factors (e.g., a lack of support, no training or teaching materials) and subjective factors (e.g., uncertainty about health in PE, a loss of focus, not being well prepared for change). Keating and his colleagues [5] conducted another study of attitudes of Chinese PE teachers toward the new fitness testing program guided by ‘health first’ among 11 universities; they pointed out that most PE teachers were indifferent to the current reform of school-based fitness testing. In addition, other quantitative studies [6–8] (of, for example, the role of elementary PE teachers in physical activities and the effects of a comprehensive health education program on Chinese primary school students) have burgeoned in recent years, revealing some prominent problems that arise in the course of realizing ‘health first’ in school PE; however, their studies failed to explore the evolution of school PE and countermeasures to address these challenges.

Aside from the abovementioned studies, more recent studies have placed greater emphasis on the Chinese government's policies for developing school PE and the theoretical starting points of the prevailing 'health first' ideology. Gu and Liu [9] proposed that strengthening the physique should be the logical starting point and the fundamental goal of Chinese school PE. By reviewing the Chinese health promotion policy changes, Wang and his colleagues [10] demonstrated the inadequacies of educating all-round students through school PE, and provided three countermeasures, including developing a comprehensive evaluation index of physical health for school-aged children, building an integrated National System for PE and health education, and pursuing high-quality PE curriculum reform. When it comes to the connotations of 'health first' in school PE, however, Chinese scholars have not reached a consensus thus far. Shen and Zhang [11] and Ren [12] argued that strengthening the physique should be the only target of school PE guided by 'health first' without any extensions, as the physical fitness of Chinese school-aged children has continued to decline in recent years, while Xiong [13] and Jiang and Wang [2] argued that 'health first' should be examined from a macro-health view, rather than the limited function of improving physical conditions, and so the starting point of 'health first' in school PE should be multi-dimensional just like many other aspects of school education.

These previous studies shed light on Chinese school PE guided by 'health first'; however, a comprehensive review of 'health first' in the existing literature is missing. Thus, the logical evolution of 'health first' cannot be fully recognized and completely presented. In addition, few studies have provided a dialectical analysis of different sports outlooks that affect the development of school PE, and even fewer studies have taken a critical look at implementing 'foster virtue through education' in current school PE. Therefore, this paper aims at:

- Reviewing the historical development, policies and practice of Chinese school PE guided by 'health first';
- Dialectically analyzing different sports outlooks that have affected the development of Chinese school PE;
- Identifying issues/challenges together with possible suggestions in the sustainable development of Chinese school PE.

2.2. Materials and Methods

To address this research's purposes, a review method was performed to present the development, policies and practice of Chinese school PE guided by 'health first'. In particular, we adopted a three-step literature search method to identify relevant materials. In the first step, we carried out a literature search on the Web of Science (WoS) database and China National Knowledge Infrastructure (CNKI) by employing suitable keywords individually or in combination, including 'health first', 'physical education', 'development', 'Chinese school PE', 'PE policies', 'PE curriculum' and 'sports outlooks'. In this phase, our literature search yielded 207 results. In the second step, we limited our literature search to peer-reviewed journal articles, bibliographic data and official documents from Chinese governmental agencies with a focus on the development of school PE and the connotations of 'health first' in the period spanning from 1949 to 2021. Following this process, we filtered out 84 duplicated, irrelevant or incomplete articles. In the third step, we conducted an in-depth reading and critical analysis of the titles, abstracts, research results and conclusions of those obtained articles retrieved from WoS and CNKI. Through such a process of checking, screening and analyzing, we finally identified a total of 47 most relevant sources for our review paper, including 30 peer-reviewed journal articles, 9 monographs and 8 official documents.

3. The Ideological Evolution of 'Health First' in Chinese School PE: Policy and Practice

This section provides an extensive review of the sustainable development of Chinese school PE under the guiding ideology of 'health first', and looks into the connotations of 'health first' in Chinese school PE from different sports views.

3.1. The Historical Origin of ‘Health First’ in School Physical Education (1949–1966)

In the 1950s, Chinese teenagers were generally in poor health conditions owing to overwhelming academic pressure and malnutrition. Under these circumstances, Chairman Mao Zedong proposed the guiding ideology of ‘health first, academic study second’ [14] (p. 9) in June 1950. ‘Health first’ was originally proposed for school education, in which PE should take precedence over intellectual education. On 20 June 1952, Mao put forward the general principle of ‘promote physical culture and build up the people’s health’ [15] (p. 36), thus establishing the general framework of school PE that centered on strengthening students’ physique. On the one hand, ‘health first’ was an active exploration in Chinese school PE, in which sports should be integrated with health and serve lifelong sport. On the other hand, improving students’ physical fitness primarily served the core interests of national defense and productive labor, which cannot be equated with health or sports at all.

In line with the fundamental principle of ‘promote physical culture and build up the people’s health’, the policy practice of school PE and PE curriculum was supposed to focus more on strengthening the physique, but this was not the case. The implementation of the Sports System for Preparatory Work and National Defense (referred to as Lao Weizhi) in 1954 (Table 1) [16] revealed how PE classes emphasized teaching sports skills. The aim of Lao Weizhi was to provide comprehensive, regular physical exercises to the laboring people and train them to become healthy, brave, persevering and optimistic. According to statistics, over 70% of Chinese junior high schools, over 85% of Chinese senior high schools and almost all higher normal schools had implemented Lao Weizhi; among 3 million teenagers who frequently took physical exercises, 700,000 met all levels of standards until the end of 1956 [15] (p. 56).

Table 1. The Sports System for Preparatory Work and National Defense in 1954 (Excerpt).

Gender	Evaluation Methods for Different Groups		
	Preparatory level for Group 1 (15–17 years old)	Level 1 for Group 2 (18–28 years old) and Group 3 (29+ years old)	Level 2 for Group 2 (18–28 years old) and Group 3 (29+ years old)
Male	Labor health gymnastics; 8 dips on parallel bars; 6 pull-ups; 1000-metre run (3’50).	Labor health gymnastics; 10 dips on parallel bars; 8 pull-ups; 1500-metre run (5’45 for Group 2; 6’00 for Group 3).	Labor health gymnastics; 14 dips on parallel bars; 12 pull-ups; 1500-metre run (5’35 for Group 2; 5’50 for Group 3).
Female	Labor health gymnastics; 2.5-metre rope climbing; 400-metre run (1’38); 80-metre skipping and running (0’15).	Labor health gymnastics; 6 pull-ups; 80-metre skipping and running (0’14.5 for Group 2; 0’16 for Group 3); 400-metre run (1’35 for Group 2; 1’40 for Group 3).	Labor health gymnastics; 8 pull-ups; 80-metre skipping and running (0’14 for Group 2; 0’15 for Group 3); 400-metre run (1’30 for Group 2; 1’35 for Group 3).

In theory, even though Lao Weizhi was carried out to serve a political purpose, as long as schools and PE teachers consistently adhered to it, Chinese students would have grown stronger after mastering a set of sports skills, and hence accomplished the goal of strengthening physique. Unfortunately, from 1958 to 1965 school PE went through a difficult time owing to the Great Chinese Famine (1959–1961). As a result, Lao Weizhi was officially abolished and replaced by the National Physical Training Standard (draft) in 1964. An excerpt of a report on students’ health status in 1960 below can provide an insight into how poor Chinese students’ physical quality was in that period:

Chinese students ranging from primary schools, middle schools to colleges and universities were generally in very poor health conditions. Diseases such as edema, hepatitis, pneumonia and myopia were even common in higher education institutions. In Beijing, more than 9000 college students suffered from edema; in Taiyuan, nearly 77.4% primary and middle school students diagnosed as having intestinal parasites. Owing to the severe

natural disaster, the total calories in students' meals could only reach about 80% of the required amount with fewer nutrients, which seriously affected their health. The qualified rate of high school graduates nationwide in the physical examination was 36.5% [17] (p. 1303).

3.2. *The Deviation from 'Health First' to 'Politics First' in School Physical Education (1966–1976)*

In 1966, China, which had not fully recovered from the Great Chinese Famine, confronted the national upheaval of the Cultural Revolution (1966–1976). Affected by the chaos, PE classes were replaced by military PE classes that only centered on formation, shooting, bomb-dropping, bayonet fighting and many other military trainings. Apart from this, the enrollment work of sports universities and colleges throughout the country was at a standstill, and many sports agencies were either closed or abolished. The distinct politicization and militarization of Chinese school PE that deviated from the guiding ideology of 'health first' brought about a remarkable decline in the physical quality of Chinese students.

In 1975, the Chinese Academy of Medical Sciences conducted a survey on the height, weight and chest circumference of children aged 6–17 years in nine urban areas across the country. Compared with their Japanese peers in 1972, among 36 items of data on the three indicators, the weight of 7-year-old girls and the height of 15–17-year-old boys in China were slightly higher than those in Japan, but the remaining 32 items were all lower than those in Japan [18] (p. 97).

From 1966 to 1976, Chinese school PE still represented the distinctive characteristics of focusing on teaching sports skills. All in all, 'health first' mainly aimed to strengthen students' physique, but hardly made any notable progress concerning the natural disaster, the national upheaval and the indiscriminately imitation the Soviet sports model. The single function of 'health first' also triggered the principal contradiction between 'essence of sports outlook' and 'sports in society outlook' in the sustainable development of Chinese school PE.

3.3. *The Debate between 'Essence of Sports Outlook' and 'Sports in Society Outlook' under the Guiding Ideology of 'Health First' (1976–1999)*

After adopting reform and opening in 1978, school PE was back on the right track as 'health first' once again became the dominant ideology. Meanwhile, an intense debate was aroused over the essence and concept of sports, which forged two major schools, namely, the 'essence of sports outlook' and the 'sports in society outlook', both of which were under the ideology of 'health first'. From the late 1970s to the early 2000s, the debate between the two outlooks exerted far-reaching effects on the relationship between school PE and competitive sports in China.

The common ground between the two outlooks was their objection to military PE classes and agreement on building up students' physique, whereas the fundamental divergence lay in whether the essential function and objective of school PE is 'building up the people's physique only' or 'cultivating all-round people and sports talents'. The 'essence of sports outlook', represented by Lin [19], Wang [20] and Han et al. [21], firmly believed that school PE was an integral part of education that merely aimed at providing students with comprehensive physical exercise, and so that it must be completely separated from mass sports and competitive sports. In contrast, the 'sports in society outlook', represented by Gu [22], Lu [23] and Xiong et al. [24], criticized the 'essence of sports outlook' in that school PE should not be limited to improving students' physical conditions, but instead should also enrich their cultural life, edify their sentiment and cultivate sports talents to break world records in mega sports events. Clearly, while the 'essence of sports outlook' stuck to the traditional value of school PE from the perspective of monism, the 'sports in society outlook' extended its value proposition from the perspective of pluralism. The debate between the two outlooks lasted for decades and hence shaped the development of Chinese school PE.

The debate between the ‘essence of sports outlook’ and the ‘sports in society outlook’ proceeded in two stages. In the first stage (1978–1989), the ‘essence of sports outlook’ had more advantages over the ‘sports in society outlook’, as it solely focused on addressing the prominent problem of students’ poor physical quality, which was in accordance with the government school PE policies at that time. For example, the *Interim Provisions on Physical Education in Primary and Secondary Schools (Trial Draft)* in 1979 and the *Interim Provisions on Physical Education in Higher Schools (Trial Draft)* stipulated that PE in Chinese schools at all levels should pursue strengthening students’ physical fitness as a priority [17] (p. 2347).

In the second stage (1989–1999), the two outlooks were well-matched in increasing the coverage and depth of school PE. In 1990, the *Regulations on the Work Concerning Physical Education and Sport in Schools* (referred to as the ‘Regulations’) made clear that the basic tasks of school PE were to improve students’ physical and mental health, strengthen their physical fitness, enhance their sports skills and cultivate sports reserve talents for the country [25]. More importantly, the Regulations plainly stated that PE was an exam-compulsory course in senior high school entrance examination. In accordance with the Regulations, the *Outline of the Nationwide Body-Building Plan* in 1995 required all-round efforts in pursuit of strengthening the physiques of Chinese students, thus establishing a national fitness system by the end of 2010 [26]. Notably, the new task of cultivating sports reserve talents reflected the Chinese government’s will from the perspective of the ‘sports in society outlook’, which advocated integrating athletics and school PE. The best manifestation was the implementation of the Outline of the Olympic Glory Program (1994–2000) (referred to as the ‘Outline’) in 1995. The Outline stipulated that the number of athletes trained for Olympic events would reach 17,000 by the year 2000, so as to achieve outstanding results in mega sports events [27].

When it comes to the school PE curriculum, the Ministry of Education issued a ten-year elementary school PE curriculum and ten-year middle school PE curriculum in 1978, which criticized the wrong idea of taking physical exercise for the purpose of productive labor or military, and reiterated that the objective of school PE classes was to strengthen students’ physical fitness [28]. In the following revisions, strengthening students’ physical fitness remained the primary objective of school PE syllabus (Table 2) [28]. The words ‘gymnastics’ and ‘track and field’ were removed to reduce school PE’s reliance on competitive sports. It seemed that the ‘essence of sports outlook’ was gaining a more competitive edge over the ‘sports in society outlook’. The latter, however, never stopped its efforts to reshape Chinese school PE. In the six-year middle school PE curriculum of 1987, the concept of ‘all-round development’ was introduced for the first time, revealing a trend of diversified revolution in PE teaching’s objective. Since then, the dual objectives of strengthening students’ physical fitness and cultivating all-round students were presented in the school PE syllabus. It is also worth mentioning that, as strengthening physical fitness became the mainstream, the influence of teaching sports techniques was supposed to be weakened. Nevertheless, comparing the teaching material of the shot-put toss from 1978–1996, the teaching requirements, technical specification and assessment of the shot-put toss remained almost unchanged, which confirms the deep-rooted influence of sports skills in Chinese school PE.

Table 2. Historical Evolution of Teaching Objectives and Teaching Materials in the Chinese Middle School PE Syllabus (1978–1996).

Name	Teaching Objective	Teaching Material (e.g., Shot-Put Toss)
Ten-Year Middle School PE Syllabus (1978)	Effectively build up students' health so that they can adapt to school education and accomplish the task of building the motherland in the future.	Junior Grade One assessment options: a. Standing grenade throw (300 g or 400 g) b. Standing shot-put toss (4 kg) Assessment: Option 1
Six-Year Middle School PE Syllabus (1987)	Enhance students' physical fitness and promote their physical and mental development so that they can achieve all-round development in terms of moral education, intellectual education, physical education and aesthetic education.	Junior Grade One assessment options: a. standing grenade throw (300 g or 500 g) b. standing shot-put toss (3 kg) Assessment: Option 1
Nine-Year Compulsory Education Full-time Junior Middle School PE Syllabus (Trial) (1992)	Enhance students' physical fitness and promote their physical and mental development through physical health education so as to cultivate the all-round development of socialist builders.	Junior Grade One compulsory: standing shot-put toss (3 kg)
Full-Time Senior Middle School PE Syllabus (Trial) (1996)		Senior Grade One compulsory: standing shot-put toss (male 5 kg; female 4 kg); or throwing medicine ball (2 kg)

Undoubtedly, there was a striking difference between the *Outline of the Nationwide Body-Building Plan* and the *Outline of the Olympic Glory Program*. While the former centered on improving physical conditions, the latter centered on athletics. The divergence in policies and practice actually reflected the principal contradiction between the two outlooks that could not be simply reconciled. On the one hand, under the guiding ideology of 'health first', strengthening students' physiques remained the primary goal of school PE; on the other hand, school PE could not neglect athletics, since China became the host of the 11th Asian Games and planned to bid for the 29th Summer Olympic Games. After all, China was eager to eliminate the negative impact of its political turmoil and demonstrate its sports power to the world through the platform of mega sports events [29]. In brief, from 1979 to 1999 the development and reform of school PE were largely affected by the two sports outlooks; both, in essence, were under the guiding ideology of 'health first', but overlooked the educational function of school PE, which resulted in a severe divergence between PE and sports.

3.4. The Logical Sublimation of 'Health First' from Three-Dimensional to 'Four in One' in School Physical Education (1999–Present)

After Beijing's successful bid for the 29th Summer Olympic Games with the slogan 'People's Olympics', the 'human sports outlook' gradually took the lead. The so-called humanism was traced back to the ancient Olympic Games in Greece, which became a model for the modern Olympic Games [30]. The 'human sports outlook', as its name suggests, upheld and developed humanism in sports by putting people first, freeing their personalities and minds in order to achieve sustainable development on all fronts. The 'human sports outlook' criticized the 'essence of sports outlook' for rigorously training students to meet the national physical training standards without caring about their feelings, and opposed the 'sports in society outlook' for fanatically cultivating the youth as sports talents to win more gold metals, both of which ran contrary to the new objective of carrying out quality education in school PE [31]. Again, a host of Chinese scholars questioned the 'human sports outlook' about its impractical functions. For example, Bi [32] argued that school PE cannot take people's emotions, attitudes and awareness into account aside from strengthening their physical fitness and mastery of sports skills.

Even though school PE should be people-oriented, it is highly doubted whether people-oriented equates to all-round development. In fact, just as the Olympic Charter implies, sport per se is people-oriented by placing sports at the service of the harmonious development of man with a view to promoting a peaceful society concerned with the preservation of human dignity and human rights [33]. No matter how impractical the ‘human sports outlook’ is, the one-dimensional ‘health first’ for merely improving physique was outdated. Instead, it was updated to the three-dimensional ‘health first’, namely, physical health, psychological health and ability to social adapt [34].

The logical sublimation of ‘health first’ in Chinese school PE proceeded in two stages. In the first stage (1999–2012), school PE, affected by the three-dimensional outlook of health, went through a drastic curriculum reform. In 1999, the *Decision on Deepening Educational Reform and Comprehensively Promoting Quality Education* (referred to as the ‘Decision’) made clear that school education must uphold ‘health first’ as a fundamental rule; effectively strengthen PE classes; enable students to master basic sports skills; cultivate good habits in taking regular physical exercises; and foster students’ sense of competition, team-work spirit and perseverance in physical activities [35]. In accordance with the Decision, the *Compulsory Education Physical Education and High School Education Physical Education Curriculum Standards (Grades 1–6) and Health Curriculum Standards (Grades 7–12) (Pilot Draft)* were promulgated in 2001. Prior to any PE syllabus reforms, the new reform underwent substantive changes in terms of the course names, guiding ideology, fields of study and content standards (Table 3) [36]. The new PE curriculum standards imposed strict requirements on sports skills teaching. Sports skills teaching should shift away from the tendency to overlook psychological health and social adaptation, and encourage students to get actively involved in sports activities to realize multiple objectives.

Table 3. Compulsory Education Physical Education and High School Education Physical Education Curriculum Standards (Grades 1–6) and Health Curriculum Standards (Grades 7–12) (Pilot Draft) (Excerpt).

Category	Compulsory Education Physical Education and High School Education Physical Education Curriculum Standards (Grades 1–6) and Health Curriculum Standards (Grades 7–12) (Pilot Draft)	
Course Name	Primary school: physical education	Secondary and high school: physical education and health
Guiding Ideology	To achieve holistic health in terms of physical, psychological and social adaptation under the guidelines of ‘health first’.	
Field of Study	Sports participation, sports skills, physical health, psychological health, social adaptation.	
Content Standards	Different regions, schools and teachers can choose their own teaching syllabus in line with the curriculum objectives and field of study.	

Admittedly, the new curriculum standards crystallized the guiding ideology of ‘health first’ and explored new ground in student-centered teaching by granting more powers to schools and PE teachers; but it triggered ongoing debate about whether the new curriculum was more effective or better targeted. First and foremost, although primary and middle school students were required to take at least 3–4 PE classes per week by law, the fundamental goal of strengthening students’ physical fitness, which was long in educational policies and PE curriculum, was never fully accomplished, let alone other tasks. The *Report on the Physical Fitness and Health Surveillance of Chinese School Students* in 2000 showed that the physical qualities (including speed quality, endurance quality, flexibility quality, explosive quality and strength quality) of Chinese students had declined compared with 1995 and 1985 levels [37]. Secondly, intentionally overlooking sports skills not only caused the decline of students’ physical qualities, but gave rise to great confusion among PE teachers, who were neither fully prepared for curriculum reform nor certain about how to apply the new curriculum to teach sports techniques [4]. Lastly, the new curriculum lost priorities and seemed to be impractical in Chinese schools. For instance, a number of curriculum

objectives related to psychological health and social adaptation were unlikely to mesh with Chinese PE teaching contents or teaching scenarios.

In addressing the questions brought by the three-dimensional health outlook, a raft of school PE policies and initiatives were adopted in the following decade. For example, *the Suggestions on Further Strengthening and Improving Sports Work in the New Period* issued in 2002 highlighted the impetus for advancing a school PE system that fitted the Chinese sports reality and carrying out extensive Fitness-for-All programs [35] (p. 26). To this end, the National Student Constitutional Health Criteria (on trial; referred to as the NSCHC) was promulgated in 2002 for the very purpose of evaluating students' health status in all respects and promoting students' participation in physical exercises both in and outside class.

After 5 years of trial work, the NSCHC were fully applied to Chinese schools at all levels (Table 4) [35] (pp. 179–180). For ensuring students' performance in the NSCHC and responding to the demands of further integration of physical health with psychological health and social adaptation, the 'Sunny Sports' initiative was launched, which required at least one hour of physical exercise per school day [35] (p. 174). Through extensive 'Sunny Sports' activities, Chinese schools at all levels must fulfill their responsibilities for developing students' good exercise habits and healthy lifestyle; cultivating students' quality of perseverance, team-work spirit and communication skills; and ensuring students grasp at least two sports skills that can benefit them for a lifelong time.

Table 4. Evaluation Index and Scores on the NSCHC (2007).

Groups	Evaluation Index (Test Items)	Scores	Remarks
Primary school: 1st and 2nd grades	BMI	20	Mandatory
	Sit and reach, beanbag toss	40	Option 1
	50 m run, standing long jump, rope skipping, shuttlecock kicking	40	Option 2
Primary school: 3rd and 4th grade	BMI	20	Mandatory
	Sit and reach, shot-put toss, sit-ups	40	Option 1
	50 m run, standing long jump, rope kipping	40	Option 1
Primary school: 5th and 6th grade	BMI	10	Mandatory
	vital capacity weight index	20	Mandatory
	400 m run, step test	30	Option 1
	Sit and reach, shot-put toss, sit-ups, grip strength-weight index	20	Option 1
	50 m run, standing long jump, rope skipping, basketball dribbling, football juggling, volleyball digging	20	Option 1
Secondary school, high school, university: all grades	BMI	10	Mandatory
	Vital capacity weight index	20	Mandatory
	1000 m run (m), 800 m run (f), step test	30	Option 1
	Sit and reach, shot-put toss, sit-ups (f), pull-up (m), grip strength-weight index	20	Option 1
	50 m run, standing long jump, rope skipping, basketball dribbling, football juggling, volleyball digging	20	Option 1

With decades of on-the-ground efforts, the health conditions of Chinese students finally improved. The *Report on the Physical Fitness and Health Research of Chinese School Students* in 2010 revealed that the height, weight and chest circumference of Chinese students both in urban and rural areas showed an increasing trend; the vital capacity weight index that had been declining for 20 consecutive years hit a turning point; the physical fitness of primary and middle school students had stopped falling with their better performance in standing long jump, sit and reach, 800-metre run, 1000-metre run and grip strength [37] (pp. 75–77). However, there is still a need for improving school PE system

and PE curriculum as the levels of physical activities among Chinese teenagers have not met the international recommended standards [38].

The *Notice on Several Opinions of Further Strengthening School Physical Education* in 2012 stipulated that the primary task of school PE was to deepen its reform of the evaluation system, physical health monitoring mechanism and safeguard mechanism for the sustainable development of school PE [39] so as to continuously improve students' physical health and enhance their well-round development. In line with the educational goal of 'foster virtue through education', the State Council issued *Opinions on Strengthening School Physical Education and Promoting Students' All-round Development* in 2016, placing 'exercise daily, healthy growth and lifelong benefit' [40] as a top priority for Chinese school PE. Since then, 'foster virtue through education' has become the prevailing ideology that steers the sustainable development of Chinese school PE. Unlike the three-dimensional health outlook that attached equal importance to physical health, psychological health and ability to socially adapt, 'foster virtue through education' interprets the role of school PE as 'having fun, strengthening physical fitness, developing personality, and exercising the will' (referred to as 'Four in One') [40], three of which center on cultivating virtue through PE.

'Foster virtue through education' is integrated with the cultivation of key competences in school education, which also answers what kinds of people are educated for the 21st century and how to educate them. In fact, with the unprecedented development of human civilization and economy, higher requirements and greater aspirations are dependent on school education and talent training. Under these new circumstances, UNESCO, the OECD and EU launched a raft of programs that relate to talent training strategies for the new century. For example, UNESCO released *Learning: The Treasure Within* in 1996; OECD published *Definition and Selection of Competencies: Theoretical and Conceptual Foundations* in 1997; EU delivered *Key Competence for Life-long Learning: A European Reference Framework* in 2005. Although these studies define key competences with different terms and criteria, the ideology coincides with the Chinese phrase of 'foster virtue through education'. Centered on key competences, the United States, Canada, Australia, Germany and many other countries have launched a new round of educational curriculum reform that is going to bring about profound changes in the current talent training mode. In this case, the prevailing guiding ideology of 'foster virtue through education' catches up with the times of world educational reform.

4. Emerging Issues and Discussions on Chinese School PE

This section discusses the difficulties and challenges that Chinese school PE has to resolve under the prevailing educational goal of 'foster virtue through education'.

4.1. The Goal of Cultivating with PE Needs to Be Prioritized

First of all, how to prioritize 'foster virtue through education' in Chinese school PE is an underlying issue that needs to be proactively addressed. Knowing that the goal of cultivating with PE can be realized only by innovating PE teaching methodologies and teaching materials, the Ministry of Education promulgated the *General High School Sports and Health Curriculum Standards* (2017 Edition). In the new curriculum, athletic competences, healthy behaviors and sport morals have become three key elements in the PE discipline (Table 5) [41] that represent the value of cultivating with PE. Granted, the proposal of key competences is a major initiative to implement 'foster virtue through education', but when taking a closer look at the new curriculum, there is a whole raft of teaching objectives that relate to sport morals, sportsmanship and characters, making it very difficult for PE teachers to focus on just one or two aspects at PE classes. After all, school PE alone is unable to undertake so many moral responsibilities that are supposed to be fulfilled along with other school subjects. Apparently, the new PE curriculum awaits further improvement to be more targeted so as to better implement 'foster virtue through education'. It is also necessary for PE teachers to create teaching scenarios to cultivate one or two aspects of sports morals and evaluate students' performance with detailed metrics.

Table 5. Three Key Elements of PE Discipline (2017).

Athletic Competences	Healthy Behaviors	Sport Morals
(1) Development of physical fitness, sports skills and sport knowledge; (2) participation and organization of sports competitions; (3) formulation and implementation of physical exercise plans; (4) appreciation and analysis of mega sports events at home and abroad.	(1) Development of good exercise habits, scientific exercise methods and basic health skills; (2) emotional stability, tolerance, optimism, good communication and cooperation skills, adapted to new environments; (3) concerned about health, love life and viability.	(1) Self-esteem, confidence, braveness, tenacity, aggressiveness, self-actualization and pursuit of excellence; (2) being neither unduly elated by victory nor depressed by defeat; (3) competent in different sport roles, teamwork and sense of social responsibility; (4) observant, civilized, respectful, aware and demonstrating behaviors of fair competition.

4.2. The Theoretical Research on PE Teaching Materials Awaits Improvement

When the 2017 edition of the PE curriculum was implemented, there were not any corresponding teaching materials or textbooks to instruct PE teachers how to ‘foster virtue through education’. Unlike sports skills that have specific standards and scores at each level, the assessment of sports morals is vague and subjective. For instance, how can one differentiate perseverance or stubbornness in sports activities? How can one distinguish bravery from boldness? How can one judge whether a student is a contributor or a free-rider in team sports? As a result, the teaching and evaluation of students’ sports morals is by and large the PE teachers’ own interpretation rather than according to teaching methodologies, making fostering virtue ineffective or even marginalized in PE classes. After all, ‘foster virtue through physical education’ is not a simple task, and it will be harder without a theoretical foundation. Currently, some Chinese experts and professionals [42] are joining endeavors to establish a PE teaching material system, such as the PE Discipline Gauge, for the purpose of helping PE teachers fully implement ‘foster virtue through education’ in PE classes. Meanwhile, PE teachers are supposed to deepen their understandings of the three key elements in the PE discipline and adopt more practical approaches to realize cultivating virtue through PE.

4.3. The Evaluation System of Students’ Physical Fitness Needs Perfection

To further strengthen Chinese students’ physical fitness on a large scale, the *Outline of the Healthy China 2030 Plan* in 2016 stipulates that the excellent scores in the NSCHC shall be above 25% [43]. In particular, among all the official documents that have promulgated pushing ahead with the task of improving student’s physical fitness, it is the very first to set a quantitative objective for constitutional health evaluation. By comparison, the credibility and accuracy of the NSCHC are not what they should be. As noted above, the NSCHC were established and developed on the basis of Lao Weizhi, but have different test objects and items. While Lao Weizhi was basically for evaluating students and motivating them to take more physical exercises, the NSCHC are prone to evaluate schools and local governments with students’ testing results. Schools conduct constitutional tests and then report the results to the Provincial Bureau of Education in order to evaluate themselves. The paradox of self-testing, self-reporting and self-assessment in the evaluation system makes the data of the NSCHC unreliable considering China’s one-vote veto mechanism for schools that cannot fulfill the goal of 25% excellent rates.

In terms of test items, Lao Weizhi has more optional test items than the NSCHC in that it is not a uniform standard applied to all regions and areas. By contrast, having evolved into the NSCHC, the test items have to be simpler and more intensive to meet a national uniform standard. As a consequence, the accuracy of the NSCHC is inevitably diluted. One of the most typical examples is the lack of upper-body strength evaluation index in the NSCHC. Apart from a traditional evaluation index that corresponds to traditional physical problems, such as obesity, myopia, speed and strength, the NSCHC lacks a measurement

and evaluation index [42] that targets students' new physical health problems, such as sensory integrative dysfunction, scoliosis and low bone density.

4.4. The National System of China's Sports Requires Reform

Before the 1980s, under the combined impacts of Chinese students' poor health conditions and an impetus for advancing competitive sports, school PE primarily accounted for improving students' physical conditions, with little attention being given to high-level sports training, whereas the training of professional athletes and cultivating young reserved talents for competitive sports were done at amateur sports schools, sports schools and elite sports teams; thus, the National System was formed. Thanks to the National System, China's sports competition made historic achievements, such as carrying out sports exchanges with other countries, ping-pong diplomacy and entering the International Olympic Committee (IOC). It seems to be a right decision and the main path for China to accomplish these tasks. On the other hand, the separation of sports and education causes an unbalanced development for both adolescent athletes who cannot access formal education and school students who cannot enjoy high-level sports training.

After establishing the fundamental task of 'foster virtue through education', there is nevertheless an ever-growing demand for sports to return to education. The publication *Opinions on Deepening the Integration of Sports and Education to Promote the Healthy Development of Adolescents* (referred to as the 'Opinions') asserts that the training and teaching of China's youth competitive sports should gradually return to the national education system [44]. The Opinions makes clear that Chinese school PE will undertake the mission of integrating sports with education, but much remains to be done in building a new National System of sports. Unlike the United States, Japan and many other countries that have a long tradition of combining sports and education, China has little experience to draw on. Even though the Opinions provides some reform measures, such as combining university games with youth games, the identity, competitive level and training places of professional young athletes are separated from the national education system. Due to China's dual-track sports system and education system [45], realizing the integration of sports and education remains challenging.

5. Conclusions

In summary, the sustainable development of Chinese school PE is integrated with various sports outlooks that reflect the ideological evolution of 'health first'. From 'strengthening physique' to 'foster virtue through education', the implication of 'health first' in Chinese school PE has been enriched. From the 'essence of sports outlook' to the 'Four in One outlook', the relationship between sports and education has evolved from separation to combination and progressive integration. Yet there are many prominent problems that have not been resolved. The value proposition of 'foster virtue through physical education' needs to be more specific; the theoretical research on PE curriculum and teaching materials needs to be more advanced; the evaluation system of student's constitutional health needs further improvement; the National System of separating sports and education needs reform.

In addressing these challenges, more practical measures should be adopted to fully implement the top-level design of 'foster virtue through education' in school PE. First of all, it is imperative to strengthen theoretical research into the key competences in the PE discipline, and to help PE teachers thoroughly understand cultivating virtue through PE. In addition, a new evaluation mechanism of third-party testing, third-party reporting and superior-assessment should be set up so that the data authenticity of students' constitutional health evaluations can be guaranteed and supervised. Moreover, we suggest the development of a more accurate, comprehensive and credible evaluation system of student's physical fitness. One feasible solution, for example, is to establish a new system of students' physical fitness evaluation index in a local standard under the framework of a national standard that allows local governments and schools to add their own test

items (e.g., blood sugar level, bone mineral density, scoliosis) that are targeted to students' physical health problems. Finally, there is an urgent need for Chinese school PE to get rid of the negative path dependence of the National System that separates sports from education. To achieve sustainable development, Chinese school PE should continuously promote sport's institutional innovation and explore the realization path of building a new National System that integrates sports and education.

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