

Comparison of Principals' Physical Education Perceptions between Two Different School Systems in China

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Abstract: This study examined how principals view and perceive physical education (PE) from two different school-systems in China, and providing meaningful information for their ongoing education reform. Participants were 138 principals (n1/"Gansu-school-system" = 75, n2/"Jiangsu-school-system" = 63). Principals' Perception of PE Questionnaire—Chinese Version (Zeng, 2012) was employed for data collection; this questionnaire included 16 items regarding "Functions", "Features", "Challenges", and "Teachers-qualification" of school PE. Participants can respond to each question on five options (score from 1 to 5). Data-analyses were done by descriptive-statistics and independent-group t-test. Results/findings included: top-three highest-score items are: Item 9 "Financial budget cuts"; Item 10 "With certified teacher"; and Item 16 "PE is an ideal course". When comparing the mean scores differences between the two school-systems, six out of sixteen comparisons showed significant differences ($p < .01$); e.g., Item 1 "PE plays a vital role", Item 3 "PE is an academic discipline", Item 5 "Obesity is a health problem"; all above items showed that "Gansu-school-system" scored lower than "Jiangsu-school-system". These findings illustrated that because "Gansu-school-system" belongs to a "Poor/Developing-region"; their principals believe PE is less important than other courses. Principals from "Jiangsu-school-system" a "Rich/Developed-region", conversely, expressed much stronger beliefs on Item 1 and Item 3. Principals of "Gansu-school-system" expressed their schools have much less obese children; unlike children in "Jiangsu-school-system", obesity has become their health concern. In summary, principals from two different school-systems perceive PE differently: principals from "Gansu-school-system" believe PE is less important than other courses, principals of "Jiangsu-school-system", however, believe "PE plays a vital role in their school curricula".

Key words: children, physical-education, curriculum reform, challenge, opportunities

1. Introduction

With China becoming the second largest and powerful country economically, physical education (PE) in their school education system has achieved great progress in recent years. However, PE is still viewed as a weak link in their school education, with lack of a scientific assessment system as well as sufficient PE teachers, spaces and necessary facilities and equipment, which have impeded the developments of students' body health, and other relative developmental channels.

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Physical activities (PA) in school PE programs have been recognized as ideal paths and environments for developing a healthy lifestyle because of the features of the programs and the high percentage of students enrolled (Graham, Holt/Hale, & Parker, 2008; Pangrazi, 2007). With regard to contextual factors, quality PE programs have been reported to be a strong factor influencing children's attitudes toward physical activities. Children's positive attitudes are likely to be linked with enjoyment, perceived usefulness of the curriculum, and a sense of belonging (Subramanian & Silverman, 2007). Curriculum with situational interest, such as those that require students to analyze and design offensive and defensive strategies, may foster students' interests in physical activities (Chen & Darst, 2001). A learning environment that promotes personal meaning is considered to be important to the development of positive attitude (Rink, 2010). Children are also likely to become more positive toward PA if they are in a learning environment that makes them comfortable and confident (Hagger et al., 2002).

Researchers support the idea that PA relieves stress and increases energy levels in one's body. Rothstein (2000) emphasized, "Children need exercise to learn. Scientists say it is plausible that by promoting blood flow to the brain, physical activity increases cognitive power" (p. B11). Moreover, Warburton, Nicole and Bredin (2006) found that a healthy body and a healthy mind help students learn better and achieve higher.

Bailey (2006) conducted a review of literatures concerning the benefits and outcomes of school PE and sports; as a result, the evidences (published in the research articles that have been reviewed) were presented in terms of children's development in physical, lifestyle, affective, social, and cognitive, five important domains. Bailey (2006) suggests that physical education and sports have the potential to make significant and distinctive contributions to development in each of the five domains. He also suggested that physical education and sports have the potential to make distinctive contributions to the development of children's fundamental movement skills and physical competences, which are necessary precursors of participation in later lifestyles and sporting PA. Bailey (2006) further concluded that actually, the contributions and benefits of school PE and sports are not only good for children but also benefit for the entire educational systems.

On the other hand, things were not always developed and move on as people expect. Over the years many researchers (Anderssen, Wold, & Torsheim, 2005; Blair, & Church, 2004; U.S. DHHS, 2000; Zoeller, 2007) have found that lack of necessary PA among children at all school levels is enormously serious and regarded as a major health risk issue, even though since the year of 2000, the trend of school PE has been changed from physical fitness towards promoting and maintaining a healthy lifestyle. The problem is pretty simple, because maintaining a healthy lifestyle and continually participating in physical exercise need time and persistence.

Moreover, as the pressure continues to increase for students to perform well on the major academic subjects' exams, the value of physical education and other related arts subjects will be questioned again (Stevens-Smith et al., 2006). Under this circumstance, the children, parents, and even school principals, most likely have to make these decisions and solutions: whether or not to focus more time on the academic study, get extra lectures, and find help and particular preparations to perform well on the many kinds of academic exams. The choice left for them, therefore, was reducing the time spent on PE or PA (Stevens-Smith et al., 2006).

Typically, according to Lee A. (2011), children in China are forced to be involved PE, PA or sports in the following two ways: maximize their physical activity exercise/sport-training so that they can become professional athletes and earn a living for an accountable future; minimize their physical activity exercise/training intensity and times to focus on academic study so that they can pass various academic exams and get into better schools that will enable them to pursue better future. These two extreme attitudes towards PE or sports have formed unique Chinese characteristics of PE.

Likewise, many helpful and good ideas have been recommended from the fields of PE and health education. Other than promote daily PA, researchers and educators suggested that PE should promote daily PA by providing information and skills to students about sports clinics and leagues in the community (Coakley, 2004; Graham, Holt/Hale, & Parker, 2008). Participating in sports helps keep children connected to their communities.

Ideas such as using interdisciplinary instructive approach that incorporates literacy, math, geography and science into PE classes or lessons, making PE programs more valuable for the young generation, have also been recommended by the researchers (Coakley, 2004; Pangrazi, 2007; Zoeller, 2007). PE professionals can change their images by developing a science-based curriculum, like applying different technology to provide visual, kinesthetic and auditory stimuli in daily lessons and using various teaching styles to bring more fun, more useful skills to meet the needs of diverse learners (Graham, Holt/Hale, & Parker, 2008; Pangrazi, 2007).

To be fair, PE in China has actually received much higher attention from the government than before. China Radio International recently reported on new standards issued by the Ministry of Education to promote physical fitness in public schools. Measures include setting aside an hour for PE each day, and if this mandate is not met, and including the results of student fitness tests in annual performance reports for headmasters, principals will have the threat of a demotion in prestige rankings (Gann, 2012).

Clearly, this shows that the government has increased responsibility for the overall well-being of children in China. However, this case also reveals the trouble with adopting broad, universal prescriptions for education reform without considering specific contexts. In this instance, China has adopted and implemented those internationally effective strategies of setting targets that were based on quantitative measures (Jansen, 2005). However, if the intended result of PE is to improve the general health and wellness of students, then it's not necessarily reflected by measure scores on fitness tests. Additionally, many Chinese parents were concerned that fitness tests may make school environments become too competitive and stressful, particularly surrounding the increased emphasis on academic test scores and so on (Yangyu, 2011).

Well, no matter how the researchers, educators, media and officials describe, discuss, recommend and mandate about the issues and solutions of school PE and PA, the bottom line is, the principals are the most influential figures to make decisions on how PE and PA will be carried out and implemented in their schools. Although it is difficult to identify generic indicators contributing to overall school effectiveness and successful educational reform, research in school effectiveness reform (Graham, Holt/Hale, & Parker, 2008; Jansen, 2005; Yangyu, 2011) have consistently identified the role of the principal as a critical contributing factor or the most influential figure on school operation effectiveness. Hence, principals are the critical figures in the PE reform battle at all school levels.

1.1 Theories of Perception

According to Theory of Knowledge. Info (2013), theories of perception can be classified into the following four categories: (1) naive realism; (2) representative realism; (3) idealism; and (4) phenomenalism. Below are the descriptions for each theory:

On a straightforward view, we directly perceive the world as it is. The way that things look, feel, smell, taste, and sound are the way that they are. We see colors, for example, because the world is colored. This view of perception is called, somewhat dismissively, naive realism.

Plausibly, perception is a lot more complicated than this. Though things may appear to be colored to us, our experiences of color are merely representative of the surface properties of objects; the physical property of

reflecting certain wavelengths of light and the color red as we experience it are two quite different things.

This has led to representative realism, which suggests that perception is not the passive process that the naive realist suggests, that we do not simply receive information about the world through our senses. Rather, we are actively involved in perception, supplying much of the content of our experiences, and must bear this in mind if we are to know what the world is really like in itself.

More extreme than either naive or representative realism is idealism. Idealists, persuaded by the thought that we have direct access only to our experiences of the world, and not to the world itself, have questioned whether there is anything beyond our experiences. A more recent theory that bears some similarities to idealism has also been proposed: phenomenism.

1.2 What Physical Education Perception Means in the Present Study?

Cherry K. (2013) defined perception as: “our sensory experience of the world around us and involves both the recognition of environmental stimuli and actions in response to these stimulus.” She stated that “through the perceptual process, one gains information about properties and elements of the environment that are critical to one’s survival.” She continued: Perception not only creates people’s experience in a society he or she lives in; it allows him/her to act within that particular environment. Moreover, she described that perception includes five fundamental senses; touch, sight, sound, smell and taste. It also includes what is known as proprioception that is a set of senses involving the ability to detect changes in one’s body positions and movements. Perception involves the cognitive processes required to process information, such as awareness of their work environment or detect familiar people or things.

In the present study, Principals’ Physical Education Perceptions involve how the principals process the information (includes experiences and knowledge) about school PE; through their perceptual process, they gain or collect information about various properties and elements of the environment that are critical to their survival or duties. That will form new experience from the school they are in charge of and allow them to make decisions on their school PE.

1.3 Geography Conditions of the Selected Target Provinces

Gansu province is located in the north-western region of the peoples of Republic of China (PRC) and is a relatively poor region in the PRC compared to the coast region of the country regarding political, economic and educational statuses. The educational standard is comparatively lower than elsewhere in North China, and the percentage of people with at least a primary-level education is below the national average. According to Gansu province education website (2013), educational facilities have been greatly expanded since 1950, however. Universities and colleges are mostly located in the capital of the province — Lanzhou city, including Lanzhou University, the Northwest Normal University, Lanzhou University of Technology, and the Northwest University of Nationalities. Special colleges providing training for railway work, the petroleum industry, animal husbandry, and veterinary medicine are also established in Lanzhou.

In contrast, Jiangsu province is located in the eastern coast region of the P R C, and is the most developed province in the country. Jiangsu is also the province in China that owns the largest number of institutions of higher education with 105 universities and colleges and an annual student enrollment of close to a million in 2007. Jiangsu. Net/education (2013) indicated that education in Jiangsu province is based on the national system for the public education, which includes primary schools, middle schools, and universities. Nine years of education is compulsory for all Jiangsu students. . . . Jiangsu’s international co-operation programs have been well established

in the past years. Its universities and colleges have accepted international students from over 100 countries, and have had extensive exchange programs with more than 300 universities internationally. The number of higher education institutions funded by private sectors nationally and internationally is on the rise and they offer youth alternative educational pathways for career attainment (<http://www.jiangsu.net/education/>).

According to National Bureau of Statistics of People's Republic of China (2012), a national development status report of "2012 Continental 31 provincial level administrative region of the China" released that Jiangsu province was ranked number one in the province level right next to the three super municipalities' cities — Tianjin, Beijing and Shanghai, while Gansu province was ranked number 30th (ranked in the last one — Number 31th was Guizhou Province).

1.4 Purpose

The purpose of this study, therefore, was to obtain the insight into how the principals view and perceive their PE programs from two different school systems: a "poverty and developing school system" — the "Gansu province school system" and a "wealthy and developed school system" — the "Jiangsu province school system". Specifically, this study aims at: (1) examining the status about principals' perceptions on their schools PE from the target school systems; (2) comparing the differences between principals' PE perceptions from the two systems; (3) comparing the differences about what kinds challenges and opportunities these two school system are facing; and (4) exploring and collecting relevant countermeasures and information for their ongoing educational reform providing theoretical basis and meaningful recommendations.

2. Materials and Methods

2.1 Participants

The participants in the present study were 138 principals, wherein 75 came from "Gansu Province School System" and 63 were from "Jiangsu Province School System". Among the 138 participants, 81 were females, age range from 32 to 51, and 57 were males, age from 35 to 53.

2.2 Instrumentation

The instrumentation was the Adapt Principal Perception on Physical Education Questionnaire-Chinese Version (APPPEQ-C.V., Zeng & Meng, 2012). This questionnaire was employed for data collection and was delivered to 160 principals who came from the two targeted school systems; as a result, 138 (86%) principals completed and returned the questionnaires. The APPPEQ-C.V. (Zeng, 2012) is comprised of 16 items concerning "Features of PE discipline"; "Functions of school PE"; "Challenges of school PE faces"; "Qualification of teachers"; "Facilities and equipment" and "Learning environment" of the school PE. The principals respond to each question on a five points Likert type scale: 1 = Strong-disagree; 2 = Disagree; 3 = No-comment; 4 = Agree; and 5 = Strong-agree.

2.3 Data Analyses

Data analyses techniques included descriptive statistics and independent group *t* test. Descriptive statistics aimed for reflecting in what degree the principals perceive their school PE; the independent group *t* test aimed at for reflecting where and in what areas the principals respond to the survey questions differently from the two school systems. Moreover, the two "open and end" questions were designed at the end of the questionnaire — the question 17th and 18th asked about "what kinds of challenges and opportunities their schools PE are facing". This

way allows the participants to stay in their comfort zone and the time they need for answering the questions/writing down their answers for the questions (**Note:** The answers/descriptions obtained from the “open and end” questions are defined as qualitative research data).

3. Results

The results released the following features: In terms of this sample of the principals ($N = 138$), their total mean score from the APPPEQ^{C.V.} was 4.018, which reflects that these principals possess quite positive attitudes toward the statements in the APPPEQ^{C.V.} In other words, their PE perception status was in the 4 points (Agree) position (their highest score was 4.760, and lowest score was 3.463 (detail can be found in Table 1), which means the principals basically value “PE as a part of their school curricula”; believe “once PE and daily PA are valued, children will gradually form their active and healthy lifestyle”; believe “school can activate and foster the PA skills children need through PE programs”; believe “without PE in school curricula, students will not be fully developed” and believe “safe environment, necessary facilities and equipment is the key for kids to regularly participate in PA”.

Table 1 Descriptive Statistics on Participants' Perceive on Physical Education from “Gansu-School-System” ($n_1 = 75$) and “Gansu-School-System” ($n_2 = 63$), $N = 138^*$

Statements/Items	<i>M</i>	<i>SD</i>	<i>SUM</i>
1. Physical education plays a vital role in our school curricula.	3.862	1.296	533.000
2. We can activate and foster the physical activity skills children need through our school physical education programs.	4.239	.932	585.000
3. Physical education is an academic discipline and just as important as English, Math and Sciences to our students.	3.644	1.300	503.000
4. Physical education is the only discipline that can mold children into healthy whole persons by providing opportunities to develop physically, socially and emotionally.	3.579	1.242	494.000
5. Without physical education in our school curricula, our students will not be fully developed.	3.905	1.266	539.000
6. Obesity is a major health issue in our young generation that can be prevented by improving school physical education programs.	3.463	1.233	478.000
7. Our children are much harder to motivate for participating in regular physical activities than ever before.	3.565	1.201	492.000
8. Parental supports for daily physical activities in our school are rarer than ever before.	3.702	1.374	511.000
9. Financial budget cuts have great impact on our physical education facility and equipment.	4.760	.460	657.000
10. Certified physical educators teaching physical education starting at elementary level will plant good seeds for positive attitude towards physical education.	4.565	.763	630.000
11. Once physical education and daily physical activities are valued and supported, children will gradually form their active and healthy lifestyle.	4.529	.726	625.000
12. Having daily physical education class is the key to prevent kids from becoming overweight.	3.673	1.290	507.000
13. To build up valuable physical education programs, having certified physical education specialists is the key.	4.159	1.280	574.000
14. Safe environment, necessary facilities and equipment is the key for kids to regularly participate in physical activities.	4.500	.756	621.000
15. After-school physical activity and sport programs are crucial for kids to become physically educated person.	3.608	1.292	498.000
16. Physical education is an ideal course for kids to obtain knowledge, motivation, skills, and confidence to develop and maintain an active and healthy lifestyle.	4.536	.897	626.000
$M_{Total} = 64.289/16 = 4.018$			

*Note: a) The APPPEQ^{C.V.} (Zeng & Meng, 2012) consists of sixteen statements concerning “Features of PE Discipline”, “Function of School PE”, and “Challenges School PE Facing” factors. For each statement, the participant can chose from “Strongly-agree” (score = 5), “Agree” (score = 4), “No comment” (score = 3), “Disagree” (score = 2), or “Strongly-disagree” (score = 1); the highest score could be 80, and the lowest score could be 16; and b) M = Mean, SD = Standard Deviation, SUM = Sum of total mean. $M_{Total} = 4.018$ which means that the participants were in the position of “Agree” with the statement on the APPPEQ^{C.V.}

In the meantime, the principals also recognized that “Financial budget cuts have great impact on their school PE facility and equipment”, “certified physical educators teaching PE starting at elementary level will plant good seeds for positive attitude towards PE”, “PE is an ideal course for kids to obtain knowledge, motivation, skills, and confidence to develop and maintain an active and healthy lifestyle”, “To build up valuable PE programs having certified PE specialists is the key” and so on.

With regard to the *similarities and differences* on the principals' perceptions about their school's PE between the two school systems: The *t* test comparison analyzation released that 5 out of 16 questions showed differences significantly at ($p < .01$) level (Statement 1, 3, 4, 5, & 6); one question showed differences significantly at ($p < .05$) level (Statement 11); the rest 10 items showed no significant differences ($p > .05$). The details about these similarities and differences can be found in Table 3. Particularly, the following statements answered by the principals were very similar: (a) *statement 2* “We can activate and foster the PA skills children need through our school PE programs” (*M* score 4.240 VS. 4.238); (b) *statement 9* “Financial budget cuts have great impact on our PE facility and equipment” (*M* score 4.706 VS. 4.825); (c) *statement 12* “Having daily PE class is the key to prevent kids from becoming overweight” (*M* score 4.600 VS. 4.761); (d) *statement 13* “To build up valuable PE programs, having certified PE specialists is the key” (*M* score 4.200 VS. 4.111); and (e) *statement 16* “PE is an ideal course for kids to obtain knowledge, motivation, skills, and confidence to develop and maintain and active and healthy lifestyle” (*M* score 4.480 VS. 4.603). Furthermore, the following statements answered by the principals showed significant differences: *statement 1* “PE plays a vital role in our school curricula”; *statement 3* “Physical education is an academic discipline and just as important as English, Math and Sciences to our students”; *statement 4* “PE is the only discipline that can mold children into healthy whole persons by providing opportunities to develop physically, socially and emotionally”; *statement 5* “Without PE in our school curricula, our students will not be fully developed”; *statement 6* “Obesity is a major health issue in our young generation that can be prevented by improving school PE programs” and *statement 11* “Once PE and daily PA are valued and supported, children will gradually form their active and healthy lifestyle” (see Table 2).

When concern to the two “open and end” questions — question 17th and 18th after using the qualitative data analyses techniques “*placing data into categories, and combining categories into theme*” were interpreted by Mikecz (2012), 15 challenges and 15 opportunities from each school system were summarized as the results (detail can be found in Table 3 and Table 4).

Table 2 Comparison Mean Score Differences on APPPEQ^{C.V.} between the Principals from “Gansu School System” ($n_1 = 75$) and “Gansu-School-System” ($n_2 = 63$), $N = 138$

Statements	Provinces	<i>n</i>	<i>M</i>	<i>SD</i>	<i>t</i>	<i>P</i>
Statement 1	Gansu	75	3.413	1.452	-4.778	.000
	Jiangsu	63	4.396	.813		
Statement 2	Gansu	75	4.240	.912	.012	.991
	Jiangsu	63	4.238	.962		
Statement 3	Gansu	75	3.040	1.389	-6.905	.000
	Jiangsu	63	4.365	.679		
Statement 4	Gansu	75	3.373	1.302	-2.157	.000
	Jiangsu	63	3.825	1.129		
Statement 5	Gansu	75	3.426	1.389	-5.308	.000
	Jiangsu	63	4.476	.692		
Statement 6	Gansu	75	2.746	1.053	-9.632	.000
	Jiangsu	63	4.317	.819		

(To be continued)

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(Table 2 Continued)

Statement 7	Gansu	75	3.400	1.241	-1.776	.078
	Jiangsu	63	3.761	1.131		
Statement 8	Gansu	75	3.533	1.426	-1.590	.114
	Jiangsu	63	3.904	1.291		
Statement 9	Gansu	75	4.706	.513	-1.514	.132
	Jiangsu	63	4.825	.382		
Statement 10	Gansu	75	4.680	.469	1.946	.054
	Jiangsu	63	4.428	.995		
Statement 11	Gansu	75	4.653	.557	2.224	.028
	Jiangsu	63	4.381	.869		
Statement 12	Gansu	75	3.600	1.365	-.733	.465
	Jiangsu	63	3.761	1.200		
Statement 13	Gansu	75	4.200	1.230	.405	.686
	Jiangsu	63	4.111	1.319		
Statement 14	Gansu	75	4.600	.657	1.705	.090
	Jiangsu	63	4.381	.850		
Statement 15	Gansu	75	3.493	1.266	-1.145	.254
	Jiangsu	63	3.746	1.319		
Statement 16	Gansu	75	4.480	.935	-.802	.424
	Jiangsu	63	4.603	.852		

Note: *M* = Mean score, *SD* = Standard Deviation

Table 3 Comparison of the Challenges of Physical Education (PE) the Two School Systems Are Facing Listed by the Principals

Jiangsu-school-system ($n_1 = 63$)	Gansu-school-system ($n_2 = 75$)
<ol style="list-style-type: none"> PE/sports resources and facilities are insufficient, and school's PE/sports equipment, facilities and grounds are in contradiction with the needs of students' population. Schools' offered times for PE and physical activity are very limited. PE teachers' professional knowledge and skills contradict students' favorite emerging sports and physical activity. The pressures for children from society and school were too high; schools overloaded their students with homework, which resulted in no time to participate in physical exercise. Multivariate lifestyles, especially with popular networks, have made students spend too much time playing on the internet; that has caused the kids to have no time, interest, nor strength for physical exercises. Contradiction between emphasis on academic education and "holistic education" concept. Contradiction between enhancing "fitness awareness" and "health first" philosophy. Contradiction between improving enjoyment in PE and enhancing the enthusiasm of students to participate in physical activities. Lack of excellent physical education teachers who possess knowledge, skills, and accountability to their duty. PE teachers' motivation is not high; there are few PE teachers who realize that PE and physical activity in "whole person education" play an irreplaceable role. Lack of a set of scientific management, such as objective and comprehensive assessment on physical education teachers' job. Contradiction between the old instructional model and up-to-date instructional model. Parents and the society misunderstood PE, with people believing that physical activity was not as important as academic learning. Administrative departments of physical education and school administrators were not truly paying attention to physical education. Physical education lacks a systematic system, and the school administrators did not regard physical education as playing a crucial role in "whole person education". 	<ol style="list-style-type: none"> Gansu-School-System lack of funding is still a major challenge for modern physical education (PE). PE/sports facilities are in serious shortage in most schools. Principals, teachers and parents have no comprehensive understanding on the subject of PE. Older PE teachers are inadequate because their professional knowledge and skills are not up-to-date. The ways PE teachers motivate and encourage their students to develop good habits of physical exercise are not enough and have little effect. Lack of overall quality PE teachers has restricted the development of school PE and conflicted with highly educated and talented young teachers. School PE lack substantive support and protection by the government and society. What the superiors say about school PE was different from how they actually operate. Children in the Gansu-School-System have poor physical fitness, and this status is far behind the National fitness standards. PE/sports injuries or accident injuries were not properly and fairly addressed and resolved. PE teachers' work passion was not high, and their knowledge and perception on the function and significance of PE were relatively poor. Lack of a scientific, objective and comprehensive assessment system to assess PE teachers' teaching performance. Students longing to go to college bear a heavy academic burden so there is no time to participate in physical exercise. Parents misunderstood PE. They believed their children "longing to go to college" were more important than anything else. Some even feel contempt towards PE. The school has no management system for PE/sports; not recognize the important position of PE in the education system as whole. PE/sports have become an important part of people's lives in a modern society, with the need for lifelong physical exercise to cultivate awareness, skills and good habits; Gansu-School-System is not aware of this yet.

Table 4 Comparison of the Opportunities of Physical Education (PE) the Two School Systems Are Facing Listed by the Principals (N = 138)

Jiangsu school system ($n_1 = 63$)	Gansu school system ($n_2 = 75$)
<ol style="list-style-type: none"> 1. People's awareness of physical education has significantly improved. 2. Socio-economic development, citizens' living standard or income has generally increased. People need physical education and sports. 3. Conditions (hardware and software) of school education have been improved, including the hardware of school PE. 4. School PE has received considerable attention, with officials realizing the importance of physical fitness of young people. 5. Teenagers' lively, feisty and other kind of nature demands that school physical education development reaches a new level. 6. "Health First Life Concept" requests that schools pay more attention to fostering the young generation into becoming "physically educated" persons. 7. The degree of attention parents paid to their children's physical health was increasing significantly. 8. Department of Education (in Jiangsu) emphasized that school PE requirements have to be increased; as well as for the curriculum reform and PE teaching standardizes. 9. PE/Sports are included in the enrollment test of secondary school, resulting in parents paying more attention to school PE. 10. "Salary Increase connects with Teaching Achievement" policy has generated higher enthusiasm and energy of the PE teachers. 11. The nation's sports competition level has become higher and stronger in which sports stars play the exemplary role and lead and promoted masses' physical activities. 12. School PE curricula should follow the development pace of the society and introduce new sports and physical activities. 13. As people's living conditions improve, people have paid more attention to their physical health and education. 14. Society has recognized the values of physical activities and begun to share physical education and sports resources and urban major sports facilities open for public or masses use. 15. Games such as Asian Youth Council game and Youth Olympic Games held in the city of Nanjing have opened huge opportunity for developing School PE. 	<ol style="list-style-type: none"> 1. Citizens' awareness of physical fitness is obviously improving. 2. Departments of education at all government levels strengthened their awareness and leadership on physical education. 3. Principals at all school levels have found the reality that students' physique declined year by year; they're starting to pay closer attention on physical education. 4. From improving people's physical health perspective, the country has proposed a series of physical education principles, such as one hour of exercise per day, healthy working for 50 years and so on. 5. National financial investment increased year by year, which means hardware construction of school PE will be guaranteed. 6. Youth's lively, feisty and other natures have provided a very broad space for the development of school PE/Sports. 7. "Health first" life awareness requests more attentions is paid to schools' physical education and Sports. 8. Education administration at all levels emphasize that school PE must achieve significant improvement, which provides opportunities for the curriculum reform and development of its standardization on school PE. 9. Parents have paid higher attention to their children's physical health. 10. Several municipalities incorporated PE as one of the test subjects in secondary school examination, resulting in a good social atmosphere and the external driving force. 11. PE teachers can select the appropriate curriculum standards based teaching content, which means PE teachers' creative space increases and hence, their enthusiasm of teaching increase. 12. The country's "Sunshine Sports" program is the development of a good opportunity for school PE/Sports. 13. As school curriculum reform increased PE/Sports lessons, PE/Sports' status as an academic discipline gained in importance. School PE/Sports should follow the pace of society and introduce new sports/activities to the young generation. 14. Social development and progress, which provide people on the "whole man development" have a more comprehensive understanding about PE/sport, is an important discipline and is increasingly prominent. 15. Western school curriculum reform process provides opportunities for updating and training PE teachers, and developing and introducing new sports and physical activities as well.

4. Discussion

According to the literature review, little research has been conducted for investigating principals' PE perceptions from the two selected school systems in China. This first comparison study examined the principals' insight and perception on their PE programs from a "poverty and developing school system" — the "Gansu province school system" and a "wealthy and developed school system" — the "Jiangsu province school system". This first comparison study has also revealed the differences and similarities between the two school systems in terms of principals' PE perceptions. Moreover, this study has also obtained what types of challenges and opportunities the two school systems are facing with regard to their school PE.

According to the findings, we would like to make the following discussion with regard to the **challenges** school PE of the two school systems are facing. As shown in Table 4, it is not hard to identify similarities and differences that exist between these two school systems: first, Jiangsu # 4, #10, #11 #13, and #14 vs Gansu #10, #11, # 12, #13 and #14 were very similar. These **challenges** reflected the issues and problems the two school systems need to solve and overcome.

Second, there are **development degree differences** between the two school systems: Instance 1, Jiangsu #1 vs

Gansu #1 and #2; although both school systems don't have enough sports equipment, facilities and space for PE, Gansu-School-System's situation was much worse. Their real situations were: "Lack of funding" and "PE/sports facilities in a serious shortage in most schools". In contrast, even if Jiangsu's PE/sports resources and facilities were in the status of "insufficient" when compared to the top three municipalities cities (Tianjin, Beijing and Shanghai) in the country, their funding and PE/sports facilities were still much better than those of the Gansu School System. Instance 2, Jiangsu #8 vs Gansu #8, students in Jiangsu have reached somewhere "improving enjoyment in PE and enhancing the enthusiasm to participate in PA" but students in Gansu are still in the status of "have poor physical fitness, and this status is far behind the National fitness standards".

Another Instance on *development degree differences* between the two school systems is Jiangsu #15 vs Gansu #15, where the school in Jiangsu province has not established a systematical PE management system yet, but PE has become a part of school curriculum and their principals, teachers, students and parents all have "recognized the values of physical activities"; meanwhile, in Gansu, PE physical activities/sports have a long way to go in becoming an important part of people's lives or a part of school curriculum.

Third, from a qualitative point of view, when discussing the PE *opportunities* the two school systems are facing, it should be described and illustrated by the geographical and economic development degree or level differences, because the levels and dimensions on those opportunities for each school were quite different even though the descriptions are pretty similar between the two school systems. (a) In the *opportunities* listed on Table 5, here are some similarities: Jiangsu #1 vs Gansu #1; Jiangsu #3 vs Gansu #5; Jiangsu #5 vs Gansu #6; Jiangsu #6 vs Gansu #7; Jiangsu #8 and #9 vs Gansu #8 and #9; Jiangsu #12 vs Gansu #13. (b) the following are some differences: Jiangsu #2 vs Gansu #2; Jiangsu #4 vs Gansu #3; Jiangsu #11 vs Gansu #11; Jiangsu #14 vs Gansu #14; and Jiangsu #15 vs Gansu #15.

The key reasons behind these differences between the Gansu and Jiangsu principals can be attributed to: (1) the economical developing level; (2) the society in Gansu still believes that "PE is not an academic discipline"; (3) people in Gansu favor "time spent for physical exercise is not as valuable as time spent on academic learning"; (4) although no one declared this, people in Gansu believe that educating children to pass academic tests and helping them get enrolled into better schools is an achievement, while fostering a "physically educated person" is not.

5. Conclusion

First, generally speaking, the principals in the present investigation ($N = 138$) possess positive attitudes toward school PE. When looking at it dapperly, the principals from Gansu school system appear to perceive PE concepts and benefits differently due to their schools' geography location, economic situations, school PE conditions, and educational priority; they are biasedly in favor of "PE is less important than other courses in their school curricula". Principals from "Jiangsu school system" possess a much stronger perception on "PE plays a vital role in our school curricula" and "PE is an academic discipline and just as important as other courses" in their school curricula.

Second, the similarities and differences do exist between the two school systems in terms of principals' PE perception. Statistically, the Statement 2, 7, 8, 9, 10, 12, 13, 14, 15, and 16 in the APPPEQ^{C.V.} were quite similar (see Table 3). Reasons behind these are: the two school system being guided by the national public school PE policies and all the requirements and standards for public schools they have to carry out and implement. However, the geography, economic and school conditions as well as the educational priority have greatly impacted these

similarities. Therefore, taking those differences between the two school systems into account make more sense; specifically, the differences between the two school systems were focused on Statement 1, 3, 4, 5, and 6 in the APPPEQ^{C.V.} (see Table 3). It is suitable to conclude that compared to Gansu school system, PE in Jiangsu school system has reached a more advanced level and their principals' PE perceptions are way more proactive than those of Gansu school system.

Third, regarding the challenges and opportunities the two school systems' PE are facing, the qualitative investigation and analyses showed that: the challenges the two school system are facing, in some degree, are pretty similar. The opportunities that the two school systems' PE are facing, however, have essential differences, e.g.: (1) "hardware of school PE has been significantly improved" in Jiangsu school system vs. "hardware, construction of school PE will be guaranteed" in Gansu school system. (2) "As people's living conditions improve, people have paid more attention to their physical health and education" in Jiangsu school system Vs. "People on the 'whole man development' have a more comprehensive understanding that PE is an irreplaceable discipline and is increasingly prominent" in Gansu school system. (3) "Games such as Asian Youth Council game and Youth Olympic Games held in the city of Nanjing have opened huge opportunity for developing School PE" in Jiangsu school system vs. "Western school curriculum reform will provide opportunities for updating and training PE teachers and introducing new sports and PA" in Gansu school system.

5.1 Recommendations

Based on the findings of the study, and the suitable points summarized from the previous relative literatures, the following recommendations were made: (a) Because of the geographical and economic development degree or level differences between the two school systems, the development of school PE curricula and standards should reflect those differences and allow them to maintain their own special curricula and policies. (b) Need to develop and establish PE class environments based on the characteristics of each school system, because these class environments will facilitate students develop their personal meaning and values, and are conducive for developing and maintaining their positive attitudes towards PE and sports. (c) Specifically, curricula with situational interest, such as those that require students to analyze and design offensive and defensive tactics and strategies (e.g., soccer, basketball and volleyball) and to create action or exercise routines (e.g., martial arts, dance and gymnastics) can foster and keep students' interests in physical activities and continually take part in the games/exercises they enjoy. (d) According to the findings of previous research: Good physical exercise can promote blood flow to the brain, and increase learners' cognitive power (Rothstein, 2000). Healthy body and a healthy mind help students learn better and will enable them to achieve higher accomplishments during their childhood (Warburton, Nicole & Bredin, 2006). Therefore, physical curricula implemented in school PE and sports programs need to be specially designed and with systematic assessment systems. This goal can be accomplished by hiring specialists to formulate new curricula and courses assessment systems with reflection on characteristics of the region. (e) Administrators should try to organize specific lectures, workshops and seminars on the benefits of school PE for principals, teachers, and staff who work for school education. This would allow all the people in said society to know the evidence that through school PE and PA programs, children will have developed their abilities in physical, cognitive, emotional, social, and ethic channels. Those developmental channels will enable them to eventually form an active lifestyle in their future life.

5.2 What Does This Article Add?

This is the research project using both quantitative and qualitative study methods to complete a comparative

study for the topic of principals' PE perception from the east coast region and west region of the P.R. China. Although this project has its limitation, e.g., the sample size was relatively small and the numbers of participants from the two school systems were not equal, etc. the finding and evidences from this study has added a set of new data to the principals' PE perception topic, especially since little study has been done in the principals' PE perception topic in the P.R. China. The results and analyses provide key insight into how the principals from a relatively poor or less developed school system and a wealthy or well developed school system view and perceive PE, and what kinds of challenges and opportunities their school PE is facing from their personal perspective. Based on these findings, it provided a way to comprehend those principals' PE perceptions. These principals' PE perceptions are related with the following key elements: (1) the economical developing level; (2) the status of whether or not PE is an academic discipline and (3) how people regard and value PE and a healthy life style in their region/city or communities.

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